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LECTURES.

CLINIC OF PROF. AUSTIN FLINT, SR.: BELLEVUE HOSPITAL, NEW YORK.

[REPORTED FOR THE BOSTON MEDICAL AND SURGICAL JOURNAL.]

Probable Ulcer of the Stomach. — GENTLEMEN: This patient's name is Ellen B., and she is thirty-two years of age. She was admitted to the hospital ten days ago, and gives the following account of herself: Eight years ago she had intermittent fever, and six years ago an attack of hæmatemesis which would seem to have taken the place of her regular menstrual flow. In the month of June, 1877, she "felt something give way," as she expresses it, in the lumbar region, and since then she has suffered considerably from pain in the back, anorexia, palpitation of the heart, and debility. She says that she has also vomited blood several times of late.

When she came to the hospital she complained principally of pain and insomnia. Since her admission she has vomited frequently, and twice has brought up blood from the stomach. The first time was just a week ago to-day, and the second time a day or two afterward. On both occasions the blood was mixed with froth and food. After this she was fed by means of nutritive enemata, and both the vomiting and the pain ceased. More recently she has been again taking food by the mouth, and since this has been resumed it is noticed that she vomits occasionally, though there is no blood in what she brings up. She is seen to be anæmic, but not much emaciated, and she now complains once more of very severe pain in the lumbar region. She is taking milk, lime-water, and brandy, and in the way of medicine twenty grains of quinine three times a day, with enough morphia to control the pain. The morphia is usually given hypodermically.

The question that presents itself after a review of the symptoms of this case is, Has the patient gastric ulcer? and I must confess that I am hardly prepared at present to give a positive opinion in regard to it. In a case of this character, where we can exclude cirrhosis of the liver, we certainly ought to suspect ulcer of the stomach. If the patient were older we should look for carcinoma, though it is rare for the hæmorrhage to be as free in that affection as it has been here. Then if there were cancer of the stomach we should in all probability be able to distinguish a tumor, which is not the case here. The symptoms of well-marked gastric ulcer, however, are not present. Were this the case the vomiting would be regular, and it would be found that food would generally be retained for a certain length of time by the stomach before it would be thrown off. Then the pain could be localized in a circumscribed spot somewhere over the stomach. Here it is singular that there is scarcely any pain whatever about the stomach. Still I cannot but regard it probable that there is a gastric ulcer here, and, at all events, we shall base our treatment on that supposition. The great indication is to keep the stomach for a time completely at rest, and this can be properly done only by maintaining the nutrition by means of rectal alimentation. Just at present the patient does not vomit at all, but if there is any return of the symptom feeding by the mouth will be withheld, and the nutritive enemata resumed. It seems to me that gastric ulcer will be much more amenable to treatment as soon as the method of rectal alimentation is more universally employed in such cases. This permits the affected organ to remain completely at rest, and thus a cure is usually quite promptly obtained. Within the last year very satisfactory results have been reported in a considerable number of cases treated in this manner.

Cancer of the Pylorus; Remarkable Relief from Distressing Symptoms afforded by Codeia. — This case, you will perhaps remember, was first presented to the class a fortnight ago to-day, when the patient had just been admitted to the hospital. The history which he gave pointed strongly to carcinoma of the stomach, and when we came to make a physical examination, all doubt about the case was cleared up. He was given directions as to the regulation of his diet, and temporarily discharged with instructions to report himself in one week; the only medicine that was ordered for him in the mean while being codeia, in one-grain doses.

At the end of the week he came back, and stated that he felt a great deal better in every respect, and to-day he returns again to tell us of still further improvement. Indeed, so marked has been the relief from the symptoms which before occasioned him so much suffering that the man thinks he is almost well; and this improvement in his condition has affected his imagination to such an extent that he really believes the tumor at the pylorus has begun to diminish in size, — a point in which I can hardly agree with him. This is a case in which there can be no possible doubt about the diagnosis of carcinoma, and yet so beneficial has been the palliative effect of the opiate that the patient, after taking it but two weeks, believes he is recovering in spite of what the doctors tell him. It only illustrates how useful an agent opium really is in these cases when it is well borne. In the present instance the obstruction at the pyloric orifice is not sufficient to occasion vomiting simply by cutting off the exit from the stomach, but still there was previously a good deal of emesis. Now this has ceased entirely, the man not having vomited once since he has been taking the codeia, and in addition he has been able to digest his food a great deal better, while the pain from which he suffered has to a great extent disappeared.

Sneaking Pneumonia. — The next patient is the subject of what I am in the habit of calling "sneaking pneumonia." This term, for which I am responsible, is not perhaps a very elegant one, but it at all events has a certain significance, and I notice that some of the ablest authorities in Germany have adopted an equivalent expression. The man's name is Hugh O'Brien; he is forty-five years old, and says he had syphilis about fifteen years ago. A corroboration of the fact of his having had syphilis is furnished by the peculiar voice of the patient, and the signs of cicatrization about the throat. There has been no phthisis in his family. Two weeks before his admission he had a horse fall on him, causing considerable compression of the chest. He complains of weakness, but says that he has no pain at present. The change in his voice, which is not really hoarseness, seems to be due to the condition of the palate and posterior nares, some operation having been performed about his throat on account of the syphilitic trouble referred to.

On making a physical exploration we find the signs of a localized pneumonia a little below the level of the left nipple, such as bronchial respiration, bronchophony, and dullness on percussion; but it seems to be quite circumscribed in extent. There is no evidence of ordinary phthisis (the consolidation not being in the right part of the lung for that), and the voice is by no means that of laryngeal phthisis. Now, according to the views of many of the best observers of the day, acute lobar pneumonia is not simply a local affection; and the present case would seem to lend strength to this theory, because although the patien thas pneumonic consolidation at one point he has not at all the symptoms of ordinary pneumonia. The latter, according to the modern views, is to be regarded really as a constitutional disease, the trouble in the lung being merely its local manifestation. Here, on the other hand, the patient has no fever or any other evidence of constitutional disturbance.

MICROSCOPIC ORGANISMS IN COCHITUATE WATER.

BY ROBERT WHITE, JR., M. D.

THE statement is often made by a certain class of writers and lecturers that every drop of our drinking water teems with living forms in great and horrible variety; and a favorite illustration of a popular scientific lecture is the exhibition on a screen, by the aid of a camera and the oxyhydrogen light, of "a drop of water magnified," the resulting display being suggestive of a prehistoric ocean, in which extinct saurians are disporting themselves; for the objects displayed under these circumstances, as a rule, have no affinity with any forms of life known to exist at present on the earth, in the air, or the waters under the earth. The "drop of water" is generally a considerable quantity of that liquid which has been artificially supplied with its lively inhabitants from other sources, and these are so distorted by the unnatural optical conditions under which they are displayed as to be unrecognizable even to those familiar with their true forms.

The facility with which grossly exaggerated statements and exhibitions like the above are accepted, and the deep interest naturally attached to all the characteristics of so important an element of our daily life, render it desirable that the results of an extended series of observations on the microscopic organic elements of our water supply should be concisely presented. That the observations made may be verified or corrected by others, I will state the modes of procedure adopted. The examination of water taken by drops directly from the hydrant gives but slight and incorrect indications of its true characteristics, unless it be exceptionally turbid and impure. On all waters as pure as our Cochituate, or the Croton of New York, satisfactory observations can be made only by concentrating the suspended matters by filtration

EXPLANATION OF PLATE.

Protozoa: 1, Actinophrys; 2, Difflugia.

Infusorians: 3, Paramœcium; 4, Vorticelli; 5, A Flagellate Monad; 6, Peridinium, 400.

Rotifers: 7, Anurea Heptodon; 8, Monostyla Quadridentata.

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17, Bacteria.

18, Vibriones.

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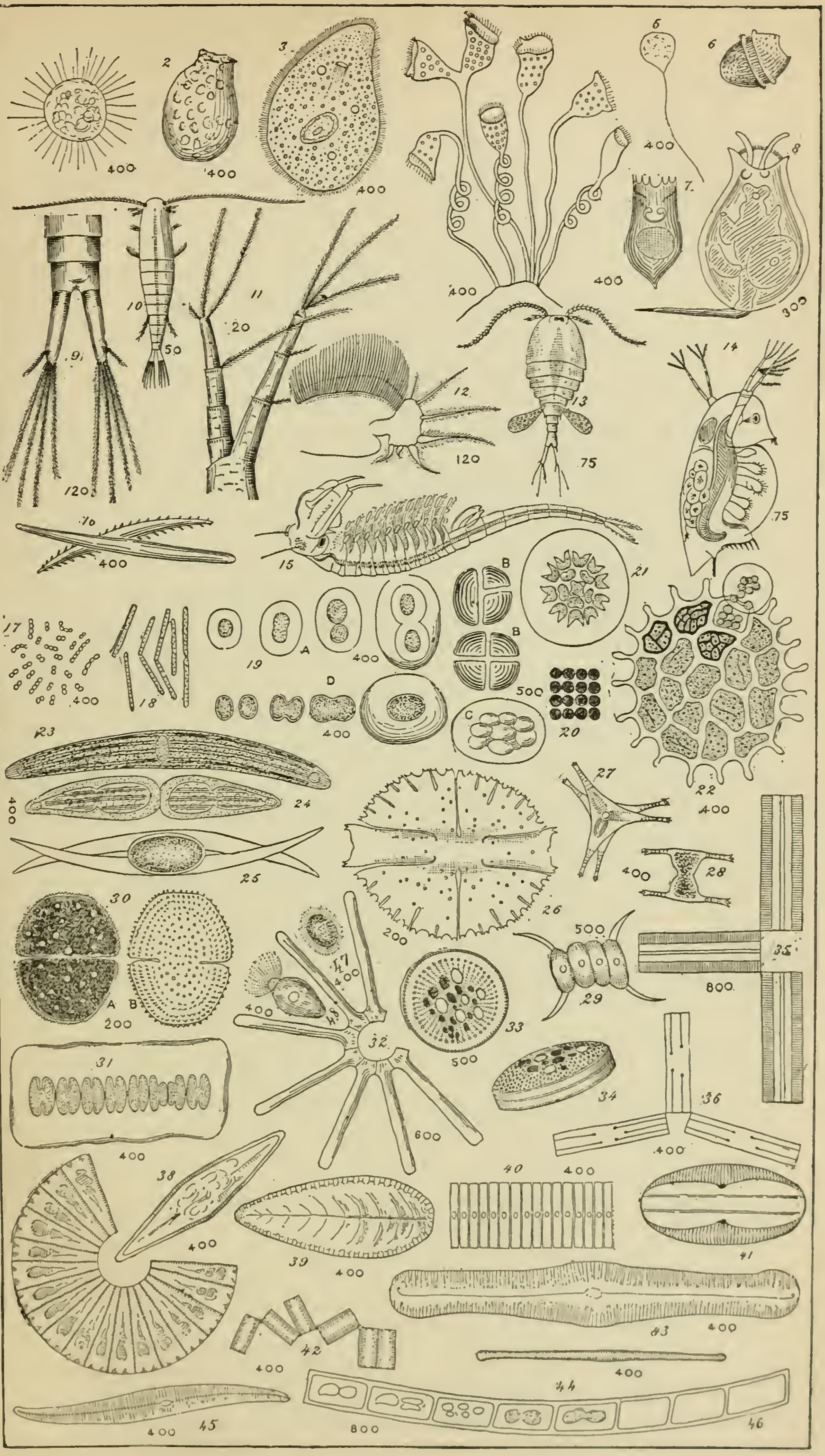
47, 48, Motile Spores.

The larger numbers indicate the number of diameters to which the objects have been magnified. The plate has been reproduced by the photo-electrotype process from the pen-and-ink drawings.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or deposition of a sediment. (1.) A mode of examination often adopted is the suspension in a wire loop of a small glass disk at the bottom of a tall glass vessel holding about a litre, which has previously been filled with the water to be examined; after standing carefully covered for one or two days the liquid is withdrawn by a siphon nearly down to the disk, which is then carefully removed, the under side dried on blotting-paper, a cover glass applied, and transferred to the stage of the microscope. In very impure waters the deposit on the disk will fairly represent the matters suspended in the liquid; but in waters as pure as those alluded to above, the deposit obtained in this way is very slight and unsatisfactory.

Either of the following methods will give much larger amounts of material: (2.) Procure a glass jar holding about a gallon, and as tall as possible; a "specie" jar, or even a pitcher, if nothing better can be had, will answer. Fill with the water to be examined, cover carefully, and place where it will be free from disturbance; at the end of twelve hours siphon off all but the last pint, refill with fresh water from the same source, and repeat this every twelve hours for eight or ten days; at the end of that time there will be a pint of pretty thick sediment, which should be transferred to a tall, narrow glass, allowed to stand for twenty-four hours, the supernatant liquid removed, and the sediment poured into a vial or test-tube, from which a minute quantity may easily be removed with a pipette to the object slide. (3.) Make a conical bag of well-worn cotton cloth washed free from loose fibres, eight or ten inches in length, and open at both ends; secure the smaller end around the neck of a one-ounce, wide-mouthed vial by tying with cord, or by a rubber band, and the other end to the hydrant faucet; let the water run into this fast enough to distend the cloth cylinder without overflowing at the ends. The water will pass out through the meshes of the cloth, leaving all its suspended matters on the inner surface or in the vial below. After twelve or twenty-four hours remove the vial and cloth, cut the latter open on a plate, and with a large camel's-hair pencil gently brush its inner surface, and add the results to the contents of the vial; allow it to settle for a few hours, and the sediment is ready for removal and examination.

Both the animal and vegetable kingdoms have numerous representatives in nearly all drinking waters, those belonging to the latter being greatly in excess, although many of the organisms now assigned to the vegetable kingdom formed a sort of border ground, over which naturalists fought for many years; and even at present there is much dispute as to the animal or vegetable character of many of the lower forms of life, for numbers of them possess so many features in common that it is impossible to draw a sharp line of demarcation between the characteristics of the two kingdoms.

As evidence of the difficulty of clearly classifying the lower forms, the Amœbæ will furnish a good illustration. Until a recent period these little masses of free motile protoplasm were supposed to represent the simplest forms of distinct animal life ; but later observations have shown that small masses of sarcode are developed by metamorphosis of the endochrome of certain vegetable cells in *Volvox Globator* and the roots of certain mosses which have in all respects the same appearances and motile properties that are possessed by the amœboid bodies in question.

Whatever animal forms may exist at the sources from which water is supplied, as it comes to us in cities, only the lower ones can be recognized, and only those which breathe without a separate respiratory system are found living; those forms of the invertebrata that breathe through a tracheal system of vessels being unable to withstand the high hydrostatic pressure to which the supply of most cities is subjected.

The lowest sub-kingdom of animals, the Protozoa, are jelly-like masses of protoplasm (sarcode), generally microscopic in size, with slight if any differentiation of organs or parts, and no nervous system. In the Cochituate we find the sub-class of the Rhizopoda represented by two or three species of Amœbæ, which it is difficult to classify distinctly, and indeed, in the light of recent observations, it is impossible to say positively that these are not vegetable rather than animal matter.

The class of the Infusoria are named from their almost invariable presence in stagnant water containing organic matter in solution ; but the *habitat* of a few species is by preference fresh and pure waters. They differ from the other Protozoa by the development of a rudimentary mouth and digestive cavity. They do not possess the power of the Amœbæ to extend pseudopódia, but are furnished with cilia or terminal filaments, which give them active motile powers, and furnish the nomenclature of the orders found in the Cochituate, the Ciliata and Flagellata. The first-named order is represented by the species Paramecium (Figure 3), Vorticelli (Figure 4), and the closely allied Epistylis. The Paramecium are sarcode masses inclosed in a transparent homogeneous membrane, with rudimentary mouth and stomach, and numerous vacuoles long considered to be stomachs, but which probably form an imperfect vascular system. This species is a fair type of the general structure of the Infusoria. The inclosing membrane is studded over a part or the whole of the surface with cilia, which are in such rapid motion during life that they are seen with difficulty ; it is only as the animalcule dies and their motion becomes slower that the vortices created by their movement make them apparent. The Vorticelli, to which the Epistylis is closely allied, is a beautiful flower-like Infusorian, growing plentifully in fresh water, usually attached to the stems of aquatic plants ; the pedicle supporting the calyx-like body contains spiral contractile fibres that give it a power of lengthening and shortening itself. Of the Flagellata there are two or three species present in the Cochituate, the Peridinium (Figure 6) being most numerous, and of most interest as representatives of the species of animalcules to which the phosphorescence of the sea is due. This species, with their kindred that are found in the Cochituate, but rarely exist in decomposing or stagnant waters.

Although most of the organisms belonging to the Protozoa are little more than undifferentiated masses of protoplasm, single cells in fact, it must not be forgotten that even the lowest forms possess all the fundamental vital properties of the higher animals; and indeed the Amœbæ, the lowest type of all, possess and exhibit in a marked degree those processes of motion, secretion, respiration, and reproduction that are commonly associated only with the life of higher organisms. Each amœboid cell is in fact a complete individual, capable of developing itself to the full perfection of its species, of maintaining itself till its natural period of existence has ended, and of completing the cycle of its life by reproducing itself in one or more similar individuals, with the same vital properties.

The Rotifera, the next higher class of animals represented in the Cochituate, on casual inspection seem to possess many features in common with the Infusoria; but closer examination shows that their structure is of a much higher type, being differentiated into a well-marked body cavity, a complete alimentary canal, and well-developed nervous system. The presence of a disk surrounded with cilia in rapid motion on the head of most species gives them the name of wheel animalcules. They multiply with such extraordinary rapidity that it can hardly be expressed in figures, and resist indefinitely the destructive influences of processes usually fatal to animal life; specimens that had been desiccated at a temperature of 200° F., and subjected to the influences of sulphuric acid and chloride of calcium in a vacuum for thirty days, reviving quickly on being moistened. These two properties explain their almost universal presence in fresh water; they are not usually found in stagnant water or in company with organisms whose presence is indicative of putrefaction. The elegance of their outlines, the translucency of their complex structure, and the apparent intelligence of their graceful and vigorous movements place them among the most interesting and instructive objects of microscopic study. Their representatives in the Cochituate are the Monostyla Quadridentata (Figure 8) and Anurea Heptodon (Figure 7), the latter in considerable number.

The animal forms next to be considered belong to the class of the Crustacea, or shell-coated animals, which includes those edible favorites the lobster and crab. The order of the Entomostraca, or shelled insects, furnishes the greatest proportion of the larger animal forms present in the Cochituate. They are usually large enough to be seen with the naked eye when the water containing them is held up to the light, and they exist in great numbers in most collections of fresh water. Their bodies are covered with a carapace or shell, more or less jointed in the different species, and in some, as the Cyprides, the animal can completely protect itself from its enemies by withdrawing its limbs into the bivalve shell, which it can open or close at will. The genera of the Cyclops (Figure 13), Daphnia Pulex (Figure 14), and Chetochilus (Figure 10) are very numerous in the Cochituate and in all fresh-water ponds and lakes. These various genera present several points of interest in their life histories, of which the most important are that as a rule they are found only in good water, that they have the same endowment of molting their shells and spontaneously casting off limbs, antennæ, etc., so well known in their larger kindred the lobsters and crabs, and the power of reproducing them. On this account the presence of these rejected members, especially the tails of the Cyclops and limbs of the Daphnia, with numerous free antennæ, are to be found in nearly all water supplies (Figures 9, 11, 12). The Phyllopoda are represented generally in drinking water by the Branchipus Stagnalis (Figure 15), a Crustacean nearly allied to the familiar shrimp of our salt marshes.

(*To be concluded.*)

RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M. D.

The Semicircular Canals. — In a paper read before the Paris Académie des Sciences on the 31st of December, 1877, Cyon[1] describes the semicircular canals as the peripheral organ of a new sense which he names "the sense of space;" that is, the impressions which are produced by irritation of the ultimate nerve fibres in the ampullæ of the canals give us the appreciation of the three dimensions of space, each one of the three canals corresponding with one of these dimensions. The eighth nerve he divides into two nerves of sense, — a nerve of hearing and a nerve of space. The irritation of the ultimate fibres of this organ of space he thinks occurs in a mechanical manner through the otoliths of the ampullæ, which are set in vibration by every active or passive movement of the head, and also perhaps by vibrations of air, the oscillations of which are transmitted to the labyrinthine fluid by means of the drum membrane and conducting apparatus of the middle ear.

This paper may be regarded as an elaboration of the results of the experiments of Fleurens and others, which have established the fact that the semicircular canals are intimately associated with the coördination of motion and with equilibrium of the body. The greater part of the paper is taken up by the relations of the semicircular canals to the innervation centres of the muscles of the eye, through which relations he explains the phenomena caused by irritation of the canals.

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[1] Archives générales de Médecine, February, 1878.

Vertigo. — In view of the discussions which have been going on during the last two or three years on vertigo originating from the labyrinth of the ear, recent papers by Woakes,[1] which are based on new neurological investigations, are of special interest. The anatomical data on which he bases his theories are worthy of careful consideration in studying further the phenomena of labyrinthine vertigo.

The labyrinth of the ear derives its arterial blood from an entirely different source from the tympanum. While the latter is supplied by branches of the carotid artery and discharges its veins into the internal jugular, the former — the labyrinth — is supplied entirely from the vertebral artery and discharges its veins into the superior petrosal sinus. The vertebral artery derives many of its vaso-motor nerves from the inferior cervical ganglion, and these nerves communicate by anastomosing fibres with the brachial plexus. This lower cervical ganglion furnishes the principal inhibitory nerve of the heart, namely, the inferior cardiac nerve, and thus this nerve is in close relation with the nerves which regulate the supply of blood to the labyrinth.

The brachial plexus is also closely related to the circulation of the labyrinth, for in addition to the nerve fibres connecting the plexus around the vertebral artery directly with the brachial nerves, branches pass from the lower cervical ganglion to the brachial nerves. Through this connection Woakes explains the fact which has been noticed by Weir Mitchell and others, that gun-shot injuries of the nerves of the upper extremities are followed by vertigo, a phenomenon which does not result from similar injuries of the nerves of the lower extremities. The vertigo from these injuries he would thus consider to be a labyrinthine vertigo, due to disordered circulation in the labyrinth through the vaso-motor nerves of the vertebral artery.

Still another connection of the inferior cervical ganglion is pointed out, which brings the stomach into relation with the labyrinthine circulation. A fasciculus is given off from the pneumogastric nerve near the recurrent laryngeal, which passes to the inferior cervical ganglion, and impressions thus proceeding to this ganglion may be transferred to the inhibitory nerves of the vertebral artery, and in this way influence the circulation of the labyrinth.

In fact, then, we have in the inferior cervical ganglion an organ connecting the upper extremities, heart, stomach, and upper portion of the digestive organs with the circulation of the labyrinth through the vaso-motor nerves which control this circulation. From any irritation we may have a wave of diminished inhibition which, relaxing the walls of the vertebral artery, produces an increased flow of blood to the labyrinth, thus causing pressure on the endolymph of that cavity. Such a pressure means, physiologically, dizziness. In the disturbance of one or more of these "sympathies" may be found the cause of simple labyrinthine vertigo without any previous ear disease.

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[1] Lancet, February 9, 1878. British Medical Journal, March, 1878. American Journal of the Medical Sciences, April, 1878.

The argument of Woakes, if accepted, would prove that the ganglia of the sympathetic system so connect or "correlate" distant regions that it is impossible for one of these regions to undergo any alteration without the occurrence of a corresponding change in any other region with which the vaso-motor fibrillæ of a given ganglion connect it.

Tobacco and large doses of quinine have the power of diminishing the vascular innervation which regulates the calibre of the blood-vessels, and thus regulates the flow of blood. The bromide preparations, and especially the acidum hydrobromicum, have the power of increasing this vascular innervation, reducing the calibre of the vessels and diminishing the flow of blood. From the action of these two agents on the vaso-motor ganglionic system Woakes explains the specific effect of quinine, namely, tinnitus aurium, and the antagonistic effect of hydrobromic acid. He narrates several cases where the internal administration of hydrobromic acid has produced favorable results in subjective noises and vertigo.

Subjective Noises from reduced Vascular Tension. — In his work on the Diseases of Modern Life, Richardson calls attention, among the functional diseases from the abuse of alcohol, to subjective noises in the ears as one of the symptoms often present with alcoholic dyspepsia, muscæ volitantes, vascular changes in the skin, etc. These noises, appearing as ringing or buzzing sounds in the head, sometimes are heard suddenly and for short intervals, sometimes continue for a long time. They are caused, he says, by reduced vascular tension, especially of the internal carotid artery, which passes for nearly an inch through the carotid canal of the petrous bone, in very close relation with all the structures of the ear, but more particularly with the tympanum, from which it is separated merely by a remarkably thin osseous wall.

The tension of the arterial walls being relaxed the artery is distended by the blood, its walls lie in close contact with the bony walls of the carotid canal, and the vibration of the blood is thus communicated to the bone and thence to the ear, the amount of vibration heard in the ear varying with the inconstant tension of the arterial walls. Richardson states that he has known such complete and prolonged relaxation of the artery that for many months together one continuous murmur, compared to the sound of a torrent of water, or the grinding of a mill, or the whistle of a steam-engine, has been a subjective symptom of the most distressing character.

In the same work, in speaking of nervous diseases from the use of tobacco, Richardson says that he entertains no doubt that there exists a functional derangement of hearing similar to and often coincident with the functional disturbance of the eye from the same cause.

He says (page 313): "The specific symptoms affecting the hearing are at first those of confusion, with an inability to appreciate distinctly sounds that are either very soft or unusually loud. This inability gives rise to restlessness and uneasiness on the part of the listener, who often asks questions with respect to articulate sounds which by others present are perfectly and distinctly heard. After a short period another symptom appears, namely, a sudden sharp ringing in the ears. This symptom will occur not necessarily during smoking, but at intervals afterwards. Sometimes, if attention be carefully paid to the subject, it may be discovered that some external noise, very slight in character, — such as the ringing of a distant bell, or the whistling of the wind through a chink, or some far-off musical murmur, — has produced the sound that is heard with so much exalted intensity. At other times the symptom comes on apparently without any provocation; the man is reading, walking, eating, or is engaged in some amusement, when suddenly there darts through one or the other ear a sharp, shrill, drilling ring, which always seems to come from without, and lasts often for two or three minutes at a time. No pain attends this phenomenon; that is to say, no actual pain, although the annoyance is extremely great. Strangely, too, the ear is not deaf during the time, for if a watch be placed to it the ticking is very distinctly heard; still more curiously, both ears are scarcely ever affected at one and the same moment. If the symptom be very much prolonged it may be attended with giddiness and nausea, but in the majority of cases after running through three stages (a commencing, an intensified, and a declining stage) it abruptly terminates."

Exostoses of Meatus. — Cassels,[1] in summing up his experience of exostoses of the meatus, gives the following account of the process by which they are formed in the ear. First, however, he separates distinctly exostoses or circumscribed bony growths in the meatus from hyperostoses or hyperplasia of the walls of the meatus. The exostoses, he says, are different from the hyperostoses in their origin, situation, and shape; they are benign, are always situated on the posterior wall of the meatus, and are found only in the inner half of the passage, that is, in the osseous meatus. They are pedunculated, and originate in the periosteum of the mastoid close to the meatus. They begin with a subperiosteal abscess over the mastoid, which enters the meatus either at the point where the cartilaginous joins the osseous portion of the passage, or else they rupture through the cartilaginous meatus. This abscess discharges for some time; finally, vascular granulations spring up on the edges of the opening, the cells of which are gradually converted into bone cells, and thus an osseous tumor is formed, the size and shape of which depends on the size and shape of the previous granulations. After complete ossification has taken place there is no increase in the size of the tumor.

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[1] British Medical Journal, December 15, 1877.

The treatment should consist, in the earlier stages of the disease, in a free opening into the abscess, and removal of any granulations which have developed; after the exostosis has once formed it can be excised by means of a small écraseur carrying a fine steel wire, or, if the meatus has become filled with the tumor, by electrolysis, which has been proved to be effectual.

These views of Cassels on the ætiology and treatment of exostoses are confirmed by Lennox Brown[1] and by Field.[2]

The Treatment of Otorrhœa. — Gruber[3] describes several new methods of making applications to the inflamed surfaces, the sources of the discharge, which are eminently practical, and in his hands have proved extremely useful.

In narrowing of the meatus, produced by the continual irritation of the passage from pus arising from the deeper parts, he has found pledgets of charpie or bougies of laminaria digitata, previously smeared with simple ointment, extremely useful in enlarging the canal by pressure, and he states that often, after restoring the natural calibre of the canal, douching with warm water has been sufficient to allay the deeper inflammation when uncomplicated.

In otorrhœa arising from an inflamed drum membrane he applies an artificial membrane of linen to the inflamed surface, covering the linen with a salve composed of zinc oxide 0.20 and unguentum emolliente 10.0, or of red precipitate of mercury 0.1 and unguentum emolliente 10.0. The same treatment is extremely satisfactory in affections of the middle ear with perforation of the drum membrane, the artificial covering protecting the parts from external influences.

In inflammations of the tympanum with destruction of the drum membrane, accompanied by exudation and a swollen tympanic mucous membrane, medicated gelatine globules are a convenient and effectual method of making astringent applications which it is desired should remain and act for a long time. These can be prepared with sulphate of zinc, tannic acid, borax, carbolic acid, or nitrate of silver in the proportion of from 1.–10. in 100. After thorough cleansing and drying of the ear the globule containing the desired medicament is passed into the tympanum, and there left slowly to dissolve, the meatus being closed by cotton. If the affection of the ear is painful, similar preparations of aqueous extract of opium or of morphine can be used in the same way.

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[1] British Medical Journal, December 22, 1877.

[2] British Medical Journal, February 2, 1878.

[3] Allgemeine Wiener med. Zeitung, Nos. 1 and 2, 1878.

Fibrinous Exudation. — Three cases of fibrinous exudation on the drum membrane and meatus are described by Bezold,[1] where the membranes on removal showed perfect casts of the parts from which they were taken. They occurred with moderately severe subjective and objective symptoms of local inflammation in the ear only. In one case perforations in both drum membranes had taken place before it came under observation, but these healed readily under treatment after removal of the exudation. All of the pseudomembranes, when examined under the microscope, showed large collections of micrococci; they were all easily removed, and the surface beneath them showed no ulceration or cicatrization. Bezold considers the disease to have been a croupous inflammation of the drum-membrane and osseous meatus, but differing from the otitis diphtheritica which has been described.

Why it should be called a distinctly croupous inflammation when so completely localized as it was in these cases it is difficult to understand, especially when it is remembered that the mucous membrane of the tympanum in many of its pathological phases very closely resembles the serous membranes; and as in pleurisy we may have an exudation which varies in the amount of fibrin and in the coagulability of that substance, so in the tympanum, as will be shown in another place, we may have an exudation in exceptional cases so rich in fibrin that there is a firm coagulum formed.

Primary Acute Inflammation of the Labyrinth. — Although this disease was described several years ago by Voltolini from his clinical observation, and from similar observations has been accepted by others as a by no means infrequent disease, still its recognition anatomically has occurred only recently. Schwartze,[2] in the summer of 1877, had an opportunity of dissecting a case which, although it lacks some of the elements for undoubtedly proving the existence of such a disease, still goes far towards establishing it.

A woman aged thirty, the subject of previous constitutional syphilis, complained for some weeks of headache on the right side, then of pain in the right ear, dizziness, staggering gait, violent subjective noises, and frequent vomiting for seventeen days. Objectively there was hyperæmia of the right drum membrane, and on account of the continuous pain paracentesis was performed, without, however, evacuating any secretion. For a few days there was some improvement, followed by increased pain in the head, a rapid rise in the temperature to 40.5° C., and the usual symptoms for three days of acute purulent meningitis, from which she died.

The autopsy showed diffuse purulent meningitis of the base and convexity; a purulent deposit near the Gasserian ganglion between the dura mater and the temporal bone; no caries of the temporal bone; no purulent deposit on the nerve trunks in the porus acusticus internus. The drum membrane was perfect, the puncture having healed; the tympanic mucous membrane was a little thickened; the tympanum was free from pus and of normal appearance. The labyrinthine structures — cochlea, vestibule, and semicircular canals — contained a sero-purulent fluid of milky consistency, which under the microscope showed nothing but degenerated pus cells. The vessels of the semicircular canals were tensely filled and tortuous; those of the ampullæ showed the same conditions in a more marked degree; and in certain spots small extravasations were seen. The utriculus and sacculus were much swollen and infiltrated by blood and pus. The connection of the labyrinthine suppuration with the disease within the cranium could not be recognized. All the other organs of the body were free from changes which could have any bearing on the fatal disease; no pathological changes characteristic of syphilis could be found.

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[1] Virchow's Archiv, vol. lxx. 3, 1877.

[2] Archiv für Ohrenheilkunde, xiii. 1.

It was unfortunate in this case that the course of the inflammation from the labyrinth to the brain could not be found, but still all the earlier symptoms pointed to the ear as the primary disease: first, pressure and pain in the ear, loss of hearing, and subjective noises; then, dizziness and staggering gait, these symptoms continuing for seventeen days without any decided head symptoms; finally, the well-marked symptoms of a meningitis which was fatal in three days. The dissection showed that the labyrinth was the only part of the ear diseased, the hyperæmia of the tympanum being merely secondary to the labyrinthine trouble. The facts, clinical and anatomical, are these: symptoms referable to the ear, generally accepted as characteristic of inflammation of the labyrinth, and unaccompanied by any others referable to the brain for more than two weeks; indications of brain disease well marked in their onset and entirely different from the previous ear symptoms; a condition of the ear and of the brain perfectly consistent with the clinical facts.

Fibro-Sarcoma of the Inner Ear. — To the few well-authenticated cases of malignant disease of the ear Burchardt-Merian[1] contributes one of fibro-sarcoma of the inner ear occurring in a man sixty-six years old, who had a chronic otorrhœa on the right side, the result of typhus fever. One year after the commencement of the otorrhœa he began to suffer from very severe and continuous pain in the ear, for the relief of which he first applied for treatment. Examination showed the meatus much contracted in calibre from a firm growth from its upper wall; beyond this growth were a few small granulations; the membrana tympani was destroyed except in its upper part, the membrana Shrapneli, and there was limited caries of the promontory; the Eustachian tube was fairly permeable ; the hearing on this side was totally destroyed, the tuning-fork on the head being heard entirely in the good ear ; discharge from the ear was moderate in quantity. The chief subjective symptom was intense continuous pain, which resisted all treatment, — leeches, ice, chloral, croton-chloral, quinine, morphine, and arsenic ; there was also a slight increase in temperature. The mastoid finally became inflamed, Wilde's incision was made, and also an attempt to open the mastoid cells, but this failed, on account of sclerosis of the bone. In short, the same symptoms continued for eleven months without any new developments, and the patient was about to be discharged from the hospital, under the impression that he was greatly exaggerating his sufferings, when croupous pneumonia set in and resulted in death.

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[1] Archiv für Ohrenheilkunde, xiii. 1.

The autopsy showed a fibro-sarcoma arising from the dura mater just above the inferior petrosal sinus : this extended into the aquæductus vestibulæ to near the floor of the meatus internus, where it divided into two branches, one of which passed to the vestibule, which was filled with a firm, yellowish-white tumor the size of a bean, the cavity of the vestibule being enlarged by absorption of bone ; the other branch of the tumor extended to the coverings of the internal carotid artery, with which it was firmly adherent. The aquæductus vestibulæ was much enlarged by separation of bony scales from its walls, produced probably by pressure ; the cavity of the vestibule was similarly enlarged, and showed many osteophytes. The superior petrosal sinus was obliterated by an old adherent thrombus, which had become organized into connective tissue. The wall of the promontory was perforated in two spots by carious fistulæ. The facial nerve showed no pathological changes. The semicircular canals were apparently involved in the vestibular growth. The mastoid cells were entirely obliterated by hyperostosis, and the antrum mastoideum was not larger than a pea.

PROCEEDINGS OF THE AMERICAN NEUROLOGICAL ASSOCIATION.

[SPECIAL REPORT FOR THE BOSTON MEDICAL AND SURGICAL JOURNAL.]

THE annual session of the American Neurological Association commenced Wednesday afternoon, June 19th, at the College of Physicians and Surgeons, New York.

Both the president, Dr. J. S. Jewell, and the first vice-president, Dr. F. T. Miles, being unable to attend, the chair was occupied by the second vice-president, Dr. S. W. Webber.

The minutes of the last meeting having been printed and already placed in the hands of the members, their reading was dispensed with.

The first business in order was the report of the committee on prize essay, which was read by the secretary of the association, Dr. E. C. Seguin, of New

York. Last year Dr. Wm. A. Hammond offered a prize of two hundred and fifty dollars for the best essay on the action of strychnia. The report stated that two papers had been handed in, and that the committee had decided in favor of the one bearing the signature "Nux Vomica." It was regarded as a valuable contribution to our knowledge of this subject, being of marked ability and giving evidence of a great deal of original investigation. The other essay submitted, however, was also of great value. The envelope bearing the signature "Nux Vomica" was found to contain the name of Dr. Edward C. Spitzka, of New York.

The secretary then read two or three amendments to the constitution and by-laws, which had been recommended by the council, among them being one which makes the third Wednesday in June the regular time for the meetings of the association. The council's action had been confirmed by the written vote of the requisite number of members.

Afterwards the secretary read a communication from the president, Dr. Jewell, expressing his great regret at not being able to be present, and explaining that his absence was due to illness in his family. In it he also proposed a prize of two hundred dollars to be awarded next year for the best original researches into the physiology of the nerves of the ovaries and uterus. In connection with this matter Dr. Hammond announced that he would offer the same prize next year that he had this (two hundred and fifty dollars), although he had not as yet fully decided upon a subject for the competing essays.

The resignation of Dr. Walter Hay, of Dubuque, Iowa, was read and accepted, after which the chair appointed a committee for the purpose of nominating officers for the association.

Dr. Hammond proposed the name of Dr. Frederick Bakeman, of Norwich, England, for honorary membership.

The annual report of the treasurer, Dr. Seguin, showing that the association was indebted to him to the amount of eighty-eight dollars, was read and referred to an auditing committee, and then a report from the council in reference to the publication and disposal of the transactions of the association was made.

The reading of papers being now in order, Dr. Spitzka, of New York, presented one on The Olivary Bodies in Man and in the Chimpanzee and Lower Mammalia. A short time ago Dr. Spitzka had the opportunity of making a careful autopsy upon a chimpanzee which died at the New York Aquarium.

Dr. Putnam, of Boston, reported a case of Probable Hæmorrhage into the Cervical Enlargement of the Cord. The diagnosis of probable hæmorrhage was made principally from the suddenness with which the symptoms noted in the case came on, and the entire cervical enlargement seemed to be affected. No opportunity for a post-mortem examination had as yet been afforded, as the patient was still alive. The case was discussed by Drs. Beard and Seguin, and the latter thought it doubtful whether there had been any hæmorrhage. He reminded the reader of the paper that in infantile paralysis the affection frequently came on with great suddenness, and yet there was but one case on record in which hæmorrhage into the cord had been proved by autopsy. In reply, Dr. Putnam stated that he was by no means positive of there having been hæmorrhage in the case, and that he was quite willing to concede that the trouble might perhaps depend upon inflammatory action.

Dr. Beard, of New York, gave an abstract of a paper he had prepared in reference to Electrical Transmission from one Side of the Body to the Other. In the paper on this subject presented to the association last year by Dr. S. Weir Mitchell, of Philadelphia, the latter took the ground that the transmission was due to induction, the galvanic current making an induced current. Dr. Beard, however, contended that the true explanation was that it was due simply to the diffusion of a very moderate quantity of galvanic current.

Dr. Spitzka then presented a case, after which the association adjourned.

At the evening session Dr. L. C. Gray, of Brooklyn, recommended for active membership by the council, was unanimously elected, after which Dr. Webber, of Boston, read a paper on Suggestions as to the Nomenclature of Inflammatory Affections of the Spinal Cord. After pointing out the lack of scientific exactness in the terms now ordinarily employed, and relating several interesting cases by way of illustration, he recommended that there should be a more general use of the expressions acute interstitial myelitis, acute parenchymatous myelitis, chronic interstitial myelitis (instead of progressive locomotor ataxia), and chronic parenchymatous myelitis (instead of sclerosis in patches).

Dr. Rockwell, of New York, read the history of A Case of Complete Recovery from Blindness resulting from Brain Disease. In his introductory remarks Dr. Rockwell mentioned that there might be almost total destruction of one entire hemisphere without interfering with either the sense of sight or of hearing. The former was more apt to receive injury than the latter, but interference with either was sufficiently rare in lesions of the brain. The more common causes of loss of vision were believed to be injury to the peduncles, thrombosis prolonged into the ophthalmic artery, and compression upon the optic tract, their importance ranking in the order named. The case referred to had occurred some time ago, but had never been reported. It was seen in consultation two months after the patient had had an epileptiform seizure followed by incomplete paralysis of one side of the body and total blindness. There was never complete recovery from the paralysis, but in the improvement which occurred in it the reverse of the usual order of events was observed, the regaining of power in the upper extremity preceding that in the lower one. The employment of the induced current was recommended, and no sooner was it employed than the patient instantly regained his sight. Dr. Rockwell regarded it as altogether probable that the power of vision would have been restored spontaneously, but thought the reflex stimulation of the electrical current had no doubt hastened its restoration. The explanation of the blindness, he believed, would have to be sought for in the reflex influence produced by a cerebral lesion in the vicinity of the tubercular quadrigemina. Several cases similar to this one were now on record, but it was certainly very rare for the blindness to continue as long as it had done here in instances in which there was recovery from it. In one case referred to by Dr. Bastian, in which it lasted for six weeks, that authority spoke of this as an exceptionally long period.

Dr. Seguin, of New York, read a paper entitled, A Clinical and Therapeutical Contribution to our Knowledge of Cervical Paraplegia. Its object was to show that in some cases, at least, the affection could not only be checked, but positively cured. Three cases were cited, the first being that of an army surgeon, which came under observation about five years ago. The primary symptom was palsy of the left hand coming on very suddenly, and both hands afterwards became stiff and numb. Three months from the commencement of the trouble there were neuralgic pains, and the thensile element of the left hand began to waste. Later there was atrophy of the right hand also, and the patient found great difficulty in writing. This seemed to him to be due to a lack of coördinating power, but such was not really the case. There was also marked anæsthesia in the ulnar distribution of the left hand. Following these symptoms there occurred a sensation of constriction about the chest and some numbness in the upper part of the trunk. In addition, an unsteadiness in gait was noticed, and the patient, who had formerly been an unusually good pedestrian, could not now walk half a mile without considerable fatigue. It might be thought by some that this was a case of progressive muscular atrophy, but Dr. Seguin rejected this hypothesis, and his reasons for doing so were founded on such characteristics of the case as the following: the paralytic seizure, the prevalence of anæsthesia, and the want of symmetry in the wasting of the muscles.

By way of local treatment, thorough galvanization was resorted to, but no real progress was ever made in relieving the atrophy of the hands. The happiest results, however, followed the internal treatment employed, and the myelitis became completely arrested. Among the agents used were nitrate of silver, cod-liver oil, and zinc. The patient was now perfectly well, except for the condition of the hands, of which Dr. Seguin exhibited plaster casts. He doubted whether there had at any time been hæmorrhage in the cord in this case.

The second case was one of central myelitis involving the upper part of the cervical enlargement, and characterized by tactile anæsthesia and marked paresis of the hands and arms, with muscular atrophy and numbness. The patient was a female who had had a number of miscarriages, and there were also other reasons to suspect that the trouble was probably of syphilitic origin. The treatment consisted of mercurial inunction and the internal use of the biniodide of mercury. The patient also took two drachms of iodide of potassium a day, and at night Squibb's fluid extract of ergot, at first one teaspoonful, and afterwards two teaspoonfuls. In addition, galvanism was faithfully employed, and the actual cautery was applied every second day. One very important part of the treatment, on which great stress was laid, was that perfect rest for the hands and arms was insisted on. Under this course the patient made an excellent recovery, and the wasted muscles were completely restored.

The third case was also one of atrophic paralysis, and the symptoms were of such a character as to denote a very grave lesion in the cervical enlargement. This was probably extensive myelitis, with the formation of an internal cavity, and descending degeneration resulting. This case, which was that of a young girl, had only recently come under observation, but there seemed little to hope for in the way of treatment.

As to the pathology of these cases Dr. Seguin thought that there could be no doubt about there being inflammatory action in the second and third; and even if there had been hæmorrhage primarily in the first case, that secondary inflammation had resulted. As regards the therapeutical results, he admitted that the successful termination in the second case might possibly be due to the fact that it was of syphilitic origin, but at the same time he felt convinced that paraplegia had been averted in the first case by the treatment employed, since the symptoms had previously showed a decided tendency towards general paralysis. The paper was discussed by Drs. Putnam, Spitzka, Shaw, and others.

Dr. Beard exhibited a simple contrivance for the use of those suffering from writer's cramp, which consisted of two metallic bands attached to the penholder, one of them passing around the index finger, near its base, and the other around the middle finger, near its distal extremity. With the aid of this and the constant use of electricity a book-keeper, whose thumb was so affected that he could not write his own name, was now enabled to write for ten hours a day with facility.

Dr. Putnam then exhibited an apparatus for the relief of "wrist-drop" in lead paralysis, which he said was a modification of Dr. Van Bibber's, and founded on the principle of Mr. Barwell's artificial muscle, now so successfully employed in orthopædic surgery. It consisted of a rounded piece of tin, six inches or more in length, which was attached to the arm by means of strips of adhesive plaster and a roller-bandage, and from the upper extremity of which an elastic band passed to the back of the hand, where it was secured by means of a buckle to a strong glove worn upon the latter. In Dr. Putnam's hands it had proved of greater service than any apparatus which he had ever seen employed, and it had the great advantage of being simple in construction and cheap in cost.

Second day, Thursday, June 20th. When the association met at two P. M. the committee on nominations reported the following list of names for officers: president, Dr. F. T. Miles, of Baltimore; vice-president, Dr. S. W. Webber, of Boston; secretary and treasurer, Dr. E. C. Seguin, of New York; additional members of the council, Drs. F. P. Kinnicutt and J. J. Mason, of New York. Voting by ballot was dispensed with, and the above gentlemen were elected *viva voce*.

The scientific proceedings were then resumed, and Dr. N. B. Emerson, of New York, read the report of A Case of Probable Aneurismal Tumors of the Brain, exhibiting specimens, both gross and microscopical, in connection with it.

Dr. Spitzka gave a Demonstration of the Brain of the Menobranchus.

Dr. Webber read a paper on Syphilitic Disease of the Cord, with a case and specimens.

Dr. Beard read a paper on Experiments with Living Human Beings. He claimed that this matter ought to be reduced to a perfect science, without any room being left for doubt or mere opinion. There were, however, six principal sources of error, which he enumerated as follows: —

(1.) The phenomena of involuntary life in both the experimenter and the subject of the experimentation.

(2.) Unconscious deception on the part of the subject of experiment. It is this which renders observations in regard to the action of new remedies so frequently worthless.

Now, in order to guard against these two sources of error, two things are necessary: first, the experimenter should have a good general knowledge of the phenomena of involuntary life, and especially of those of trance; and, second, the subject must always be deceived in the experiment made upon him. The latter is to be accomplished by the experimenter in three ways, namely: —

(*a.*) By doing something when pretending to be doing nothing.

(*b.*) By doing nothing when pretending to be doing something.

(*c.*) By doing something different from that which the subject supposes is being done.

In a case of importance it is often desirable to employ all three of these methods.

Dr. Beard was of the opinion that Charcot and many other observers of the very highest distinction had failed in both of the above points.

(3.) The third source of error was intentional deception on the part of the subject of experiment. For instance, a physician had lately endeavored to convince him that a certain lady of his acquaintance was able to read questions inclosed within sealed envelopes by simply placing the latter to her forehead. In reply he contended that such a thing was thoroughly unscientific, and that he knew inductively that it was only a trick. The sequel showed that for years this lady had willfully deceived her husband and her most intimate friends.

(4.) Unintentional collusion on the part of the third parties, such as audiences or witnesses. In his exposures of the so-called "mind reading," he had found it absolutely necessary to exclude all witnesses from the room, or else to insist that they should remain perfectly motionless as well as silent.

(5.) Intentional collusion on the part of others, such as the assistants employed by Houdin and Heller in their tricks of magic.

(6.) Chance and coincidence. The last was a source of error very frequently overlooked.

In observations in regard to the action of new remedies it was generally supposed that all sources of error were eliminated, on account of the immense number of experiments frequently made; but such was not the case, and no experiments were so injurious to science as those which had the air of the greatest precision, but were in reality altogether worthless.

Dr. Beard's paper was discussed by Drs. Mason, Kinnicutt, Putnam, and Seguin. The last named said he considered it a very interesting and valuable contribution, which would undoubtedly assist us very much in our blind, groping way of testing medicines. He referred principally to our clinical methods, he said, as observations made in the laboratory were usually more accurate. Unfortunately, there did not seem to be much prospect of getting rid of one of the most prominent sources of error, namely, "expectant attention," since in private practice patients were constantly demanding more and more to know what the physician was giving them, while in hospitals the terms of service of the visiting staff were usually so short that it was next to impossible to carry out any prolonged series of observations in them. Dispensary practice was still more unsatisfactory in this respect, on account of the irregular attendance of the patients, the neglect to follow out the physician's directions, and the liability to lose sight of cases entirely just in the midst of one's experiments. In conclusion, he hoped that Dr. Beard would farther develop this very important subject.

Dr. Seguin next read the report of A Case of Amyotrophic Lateral Sclerosis, accompanying it with specimens and drawings. It was characterized by atrophic paralysis, with marked contraction, involving both the upper and lower extremities, and also by slight paresis of the mouth. Death occurred five years ago, from pneumonia, but the microscopical examinations had only recently been made. The specimens, however, were in an excellent state of preservation. The pathological anatomy of this form of sclerosis, Dr. Seguin said, was well known up to a certain point, but it was as yet undetermined what became of the sclerosis after passing beyond the decussation of the pyramids. A second point of dispute among authorities was as to the nature of the trouble, and a third as to its exact location. In regard to the last point, he believed with Flechsig, that it crossed the pyramidal fasciculus, and was not situated in the antero-lateral columns, as claimed by Charcot. In regard to its nature, on the other hand, he agreed with Charcot, believing that it was a truly inflammatory process, and not a degeneration, as claimed by Professor Flechsig. As to the first point mentioned, he was unable to throw any light on the matter, since, unfortunately, all those specimens from the case which might have been of service in clearing it up had been lost.

At the evening session Dr. Gray, of Brooklyn, read a paper on Cerebral Thermometry, which was discussed by a number of members, and then Dr. Kinnicutt reported a Case of Generalized Athetosis. It occurred in a child, and the head was affected as well as the hands, the facial and cervical muscles being implicated. There was also slight incoördination of the legs. Intelligence was poor, and the speech was morbidly affected. Eight similar cases had been recorded, seven by Clay Shaw in the St. Bartholomew Hospital Reports, and the eighth in Charcot's journal. Charcot had always claimed that hemiathetosis was found only as a result of cerebral hemiplegia, and therefore it was necessary to distinguish cases like the one under consideration from hemiathetosis, as being of an altogether different character. The characteristics of generalized athetosis are as follows: —

(1.) It is primary, and either is congenital or else originates very early in life.

(2.) It is bilateral, and always affects the head and the cervical muscles as well as the hands.

(3.) There is an absence of all paralysis and sensory disturbance.

(4.) There is a more decided tendency to diminished athetoid motion during repose.

(5.) It is accompanied by a greater or less degree of imbecility.

The pathology was only conjectural, as there had as yet been no autopsy reported.

Dr. Allan McLane Hamilton, of New York, stated that he had hitherto always been skeptical as to the existence of athetosis as a distinct affection, but that he had recently met with a case which had thoroughly convinced him of his error. The patient was a boy thirteen years old, and the athetosis had lasted six years. It affected both the hand and foot on the same side, and the peculiarity of the case was that it seemed to be primary. The intelligence of the lad was perfect.

Dr. Kinnicutt mentioned that an analysis of twenty-seven cases of hemiathetosis had lately been published, and in all but four there had been preceding hemiplegia. Two of the four exceptions were Dr. Hammond's cases.

Dr. Webber believed that a great many of the cases of athetosis were congenital, and related one of this kind in which the patient, now twenty-one years of age, had a constant motion of the left hand. He knew of thirty-three cases which had been reported, and stated that the left side of the body was affected in them as often as the right. In a large proportion of them (including Shaw's cases) the disease began in infancy. In two out of three autopsies which had been recorded there was found hæmorrhage into the corpus striatum. In both of these cases it was peculiar that the athetosis had lasted but a short time (only a few days), and had disappeared before death. It would seem therefore to have been due here to the irritation of the clot. In the third case a tumor was found at the autopsy. In all three cases the lesion was located about the denticular nucleus, towards its posterior end, and the internal capsule of the corpus striatum must undoubtedly have been pressed upon to a greater or less extent. Charcot had reported three autopsies where the lesion involved the corpus striatum and optic thalamus.

Dr. Emerson inquired what was the relation of athetosis to chorea, and Dr. Webber replied that he did not believe that it had any. He thought that the term post-hemiplegic chorea was a misnomer, because the motions occurring after cerebral hæmorrhage were not at all like those seen in the disease which we call chorea. Athetosis resembled what was known as post-hemiplegic chorea much more closely than it did chorea proper.

The evening's session was concluded by a narration of cases by Dr. Gibney, of New York.

Third day, Friday, June 21st. But one session was held on the final day. The first paper read was by Dr. Putman, and was entitled Observations on Intra-Ocular Circulation. It was discussed by Drs. Seguin, Shaw, and others.

After the narration of some cases by Dr. Beard, the last paper was read by Dr. Schmidt, on The Structure of the Ganglionic Bodies of the Cerebro-Spinal Axis, and then the association adjourned. The attendance was hardly as large, nor were the proceedings perhaps of quite as much interest as at some of its former meetings.

STONE'S CASES, MEDICAL AND SURGICAL.[1]

A PERUSAL of this book, which is made up of such cases as seemed to the author worthy of record, and which were taken from a journal of all the cases occurring in his own practice during the whole of his professional life, gives one a desire to know something about the writer himself.

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[1] *Clinical Cases, Medical and Surgical.* By JOHN O. STONE, A. M., M. D. Formerly Surgeon to Bellevue Hospital, etc. New York: G. P. Putnam's Sons. 1878.

Dr. John O. Stone, as we learn by the kindness of Prof. Austin Flint, Jr., was born in Salem, Mass., in 1813; graduated from the department of arts, Harvard University, in 1833; took his medical degree in the medical school of the same university in 1836. Dr. Walker, of Charlestown, whose surgical ability evidently made a strong impression upon the mind of Dr. Stone, was his preceptor. While a student he had under his care the patients in Charlestown State Prison. After receiving his medical degree he visited Europe for purposes of study. Returning to America he settled in New York. From 1847 to 1854 he was a surgeon to Bellevue Hospital; was especially active in the New York Medical Association; was appointed commissioner of the Metropolitan Board of Health, in which capacity he did the city good service. He died suddenly of heart disease during the summer of 1877. His most striking traits were self-reliance, directness, and absolute honesty, and if we may judge by the tone of his book Dr. Stone possessed a modest simplicity which is not common.

The book records cases of great variety, both medical and surgical, the earliest dating 1834, the latest 1876. As the reader passes from one decade to another he notes with great interest the introduction of clinical facilities. the stethoscope, thermometer, microscope, laryngoscope, ophthalmoscope, etc. One remarks, too, the gradual change in treatment, — the lessening frequency of venesection, so abundantly used in the earlier years of these records, the growing simplicity in therapeutics, the increase in the use of water and a richer diet. The details of a very interesting case of puerperal fever (date 1836) were copied "from the minutes of my friend and fellow-student, Mr. Morrill Wyman." In this case the patient was bled to the extent of sixty ounces in nine hours; a blister, covering the whole abdomen, was applied; castor-oil, Epsom salts, etc., were given "in a way that would be considered reprehensible at the present day." Strangely enough the patient recovered. We find here the remark, "Opium must be regarded as of established value, and following venesection may, in most instances, be conceived to be invaluable. . . . But I wish to protest against the idea that what is old is valueless because a novelty is in temporary ascendancy." In a case of croup "treated by probang and caustic," Dr. Stone perhaps anticipates Trousseau in saying, "When tracheotomy is necessary I believe it should be done early." This is a fair evidence of the good sense which is found everywhere in these reports.

In recording a fatal case of encysted kidney, which held two gallons of fluid, Dr. Stone says the kidney is in possession of the Boston Society for Medical Improvement (date 1852).

When we reach the purely surgical section of the book, we find a lengthy chapter on Amputations and Compound Fractures, which is of great value inasmuch as it enters deeply into comparative statistics. In connection with a number of fatal cases we notice the interesting remark, "All of these patients took ether, and since Velpeau has discouraged the use of chloroform during the period of stupor we may well ask whether the anæsthetic had aught to do with the mortality." This is a very thoughtful paper, and it shows that while Dr. Stone was a bold surgeon he was nevertheless conservative, especially in the matter of amputations. Moreover, one can readily see that surgery was his specialty by predilection; yet every case, whether medical or surgical, bears evidence of his conscientiousness.

The book is very systematically arranged, and will be found pleasant reading. It seems that the manuscript was found, ready for the printer, among his papers, after Dr. Stone's death, and was therefore published just as he left it. If he had lived long enough, probably he would have revised certain portions. The volume is handsomely bound and printed, but shows most irritating carelessness in proof-reading. In two hundred and thirty pages there are at least fifty gross errors. Negligence of this nature in a posthumous work written by a careful and systematic man is an unkindness to his memory.

OUR MEDICAL SOCIETIES AND THE CHARACTER OF THEIR WORK.

We have endeavored to present to our readers this spring a comprehensive summary of the vast amount of work accomplished by our medical associations, which each year seems to find more numerous and active. The most prominent change which has taken place of late years is the multiplication of societies representing special branches of medicine, the most recent of which is the National Laryngological Association organized at Buffalo. The report of the Neurological Association which we give in the present number shows how vigorously these societies are to be maintained. The fine volume of the Gynæcological Society which has just appeared is evidence of the success of that body. although in its third year only. The meeting of the national association in Buffalo was encouraging to those who are concerned for its welfare, although there does not appear to have been any feature of marked interest. The attendance was quite large, however, and as a social gathering it may be considered a marked success. We have heard the customary allusions made to the attitude of Massachusetts to the association in view of a supposed insult offered to the state society some years ago. As those who are familiar with the facts of the case are well aware, the national body, with its imperfect machinery for handling such matters, took the only action it well could under the circumstances. The limited attendance of late years from this quarter of the country should rather be ascribed to our remote situation and the lack of sufficiently interesting work at the meetings to induce men to make a long journey to attend them. As their character improves we have no doubt the attendance will also.

Our state society never showed more vigor than it has the present year. The combination of the proceedings of the Medico-Legal Society with those of the state was a happy thought, and the hall of the Lowell Institute was never more crowded. The spectacle of a body of from six to eight hundred men gathered together at the annual dinner in the Music Hall is a striking one, particularly to visitors to the state meeting, to whom the scene is undoubtedly as novel as interesting.

We have one comment to make on the work of the society at this as at other meetings, and that is the absence of all debate upon the papers read.

A debate organized upon the principle of one lately conducted at the New York Journal Association, a report of which appeared in a recent number, would be a very valuable feature, and if properly arranged would bring out some of our prominent practitioners and greatly increase the interest in the literary portion of the meeting. It has been a growing habit of medical societies in Boston to avoid all discussion, and it is but too frequently the case that a valuable paper is received in dead silence, the members who should be leaders in debate preserving a sphinx-like attitude which discourages or awes the young portion of the fraternity. We hope to see next year a lively discussion participated in by several well-known men, and we respectfully submit the suggestion to the committee which has charge of these matters. We regret to see that the reports of the districts have not been forthcoming this year.

MEDICAL NOTES.

— A French correspondent of the London *Medical Record* is very severe upon French surgery. He says: "The first thing French surgeons have to learn is cleanliness in their own manipulations; cleanliness of their instruments and of the dressings. Then they have to teach the same lesson to their house-surgeons, whose neglect, dirt, and cruel habit of carrying infection from patient to patient are so ingrained that nothing short of a great effort can alter them. A complete reformation also is wanted in the dirty, slovenly ways of the good Sisters. Neglect of cleanliness, — that is the secret of the bad results of French surgery; and how bad they are in comparison with the rest of the world will never be known, for no reliable statistics are kept. A capital operation in some of the services here is little less than homicide. . . . It is the practice of consultants (of Paris) to charge very high fees for their consultation or operation, and hand over part, sometimes half, of it to the practitioner who calls the consultation. Foreign patients should be on their guard against a practice which puts them up to the highest bidder. . . . I believe such a custom is unknown anywhere else in the world, but I am assured by well-informed authority that it exists very largely in Paris, and has extended to very high quarters."

— Dr. Gallard, of La Pitié, in remarking on the effects of alcohol on the stomach, says: "No class of society is free from the vicious taint of alcoholism, and a large number of unexplained disorders are probably due to the pernicious habit of drinking, or an indulgence in what are called stimulants."

— According to the *Revue des deux Mondes* the ostrich hunters of South America extract the pepsine from the stomach of that bird, and sell it to dyspeptics for its weight in gold. This business was suggested by the almost incredible digestive powers of the ostrich.

— *L'Union médicale* announces the inauguration at Pavia of a statue to Alexander Volta.

— A telegram from San Stefano states that "fifty physicians and fifty-four assistant surgeons have died in the service of the army of the Danube; thirty-one physicians are on leave, and four hundred and seventy-four physicians and assistant surgeons are ill.

— It seems that Dr. Richardson, of London, has been experimenting with Professor Hughes, of Kentucky, now in England, and the discoverer of the microphone or sound magnifier, "but," says the *Lancet*, "up to this time, by means of the microphone, Dr. Richardson has not been able to hear the respiratory murmur and the cardiac sounds any more clearly than with the stethoscope. Certain difficulties are yet to be overcome. Through the microphone the smallest defects in clock or watch may be detected. If the same analysis of motion can be applied to the animal mechanism, Laennec himself will find a historical rival in Professor Hughes."

— "A sudden and inexplicable death" from the inhalation of methylene is recorded in the *Medical Press and Circular*. The victim was a retired officer, forty years of age, in apparent health.

— A New York correspondent of the *North Carolina Medical Journal* mentions a case in which Dr. Alan P. Smith, of Maryland, sounded for stone, and discovered two urethræ in one penis. He had found no stone, but on sounding through the second urethra did find it, and thus disclosed the fact that there were also two bladders. Lithotomy was performed, the patient micturated naturally during the whole period of convalescence through one of the urethræ, and finally recovered. The same writer also says that Sayre has given the *coup de grace* to those who dispute the claim of priority in the matter of the plaster-of-Paris dressing of the spine, by showing that suspension in the treatment of Pott's disease was in use more than two hundred years ago.

— The *Geneva Journal* (Swiss) states that several cases of lead-poisoning in infants lately occurring in Germany have been found to be due to the effect of the direct rays of the sun upon the oil-cloth tops of baby-carriages in which these children were kept when out-of-doors. The oil-cloth is of American make, and contains forty-two per cent. of metallic lead.

— For the first time in Holland a medical diploma has been recently given to a female who proposes to practice in Amsterdam.

— McKelway, of Philadelphia, gives this formula for making koumiss of cow's milk: Best unskimmed milk, one quart; yeast (brewer's or old baker's), gr. c.; cane sugar, gr. cc. Keep the mixture at 80° F. until fermentation is brisk, stirring frequently; then bottle, and secure corks with wire or stout twine. In twenty-four hours it is fit for use. Dr. Pepper recommends this preparation in a variety of bodily conditions. His paper will be found in the *Medical and Surgical Reporter* for June 1st.

— Dr. Favrier — *La France médicale* — says that compression of the epigastrium by a tourniquet will arrest the most obstinate and rebellious hiccough almost at once.

— A Newark, N. J., physician reports the "cure" of a patient who had suffered severely from aortic incompetency, with dilatation. Nitrite of amyl in five-drop doses every two hours for five days was the specific. The dose was gradually diminished, and then withdrawn.

— Dr. Thompson, of Goshen, N. Y., says that in a drug store of his town he saw a woman take thirty-seven grains of morphia at one dose without visible effects. The woman stated that it was her usual dose. She seemed to be in good health.

— The *Duboisia myopsorida*, from an Australian plant, has been recently advocated by M. Galezowski as a mydriatic, much superior to atropia. Its advantages are set forth in *La Mouvement médicale*.

— MM. Bochefontaine and Bourceret, reporting their experiments on the pericardium, assert: (1.) That the healthy pericardium is sensitive; this sensibility — more decided on the external than on the internal face — may be excited mechanically. (2.) That the inflamed pericardium exhibits strong sensibility on its external face and in its thickness. They believe that the exceptional pain in rheumatic pericarditis is thus explained, as it is ordinarily superficial. The experiments also make clear the reason of the intense pain in other forms of inflammation of the pericardium.

— Dr. Smith, in the *Pacific Medical and Surgical Journal*, reports the case of a young German mother, aged seventeen, who has a third mammary gland on the left side, a few inches below the normal gland. After the birth of her child this gland secreted as much milk as either of the other two.

LETTER FROM LONDON.

Mr. Editor, — Perhaps the most energetic of the many medical societies of London is the Pathological Society, which holds its meetings twice a month from October until the end of May. The meetings are usually devoted to the exhibition and discussion of morbid pathological specimens of very various kinds; but each year a series of three or four evenings is devoted to the consideration of some one great question connected with pathology, which is chosen several months beforehand in order that the members may be able to direct their attention to this subject, and may come to the debate with supplies of new and well-organized facts bearing on it. In this way the pathology of tubercle, of cancer, of syphilis, and of contagion in general has been, within the last few years, thoroughly discussed; and though it cannot be said that all doubtful points have thereby been settled, yet the debates have served the purpose of bringing these points into prominence, and have set men thinking about matters which might otherwise have long remained dormant.

This year the subject chosen was the pathology of diseases of the blood-making organs, and especially of the morbid state which has passed under the various names of Hodgkin's disease, adénie, lymphoma, and lymphadenoma. The subject is one of peculiar interest, not only from the importance attaching to the ultimate pathology of the diseases of the blood-making organs, but from the fact that the study of these diseases has begun so recently that many fundamental facts in their history still remain unsettled. It was partly to elucidate these points, and partly to trace, if possible, the relation which the different diseases of the group bear to one another, that the subject was chosen for discussion this year in the Pathological Society.

According to the present classification the group of diseases of blood nutrition may be said to be composed as follows: (1) Splenic leucocythæmia; (2) leucocythæmia from disease of some organ or organs other than the spleen; (3) lymphadenoma; (4) pernicious anæmia. In the first three of these conditions the blood-making organs are at fault, but the last seems to be a failure of blood nutrition apart from any evident disease of the organs. Now, though the above classification has hitherto been accepted as a rough indication of the main types of disease, yet in reality these types become frequently intermingled in an endless variety of ways. So much so, indeed, is this the case that it makes it doubtful whether our classification is a truly scientific one, or whether it will not be possible to substitute for it one which shall be here in accordance with the true significance of the various morbid states.

The recent discussion was opened by Dr. Wilks, of Guy's Hospital, who briefly narrated the original cases of lymphatic gland disease observed by Hodgkin; but the speeches containing the greatest amount of new matter were those by Drs. Gowers, Greenfield, Turner, and Goodhart, who may be looked upon as the pathological representatives of the great schools of University College, St. Thomas's Hospital, London Hospital, and Guy's Hospital, respectively. The results they brought forward only helped, however, to show how almost impossible it is to make definite varieties of disease of the hæmatopoietic organs; that lymphatic gland disease is comparatively rare without concurrent splenic disease; and that in very many cases there is disease of lymphatic tissue in other parts of the body as well. Dr. Gowers presented a table of ninety-seven cases of so-called lymphadenoma gathered from various sources, in no less than seventy-seven of which the spleen was enlarged. Of these seventy-seven cases fifty-seven showed the typical infiltration characteristic of splenic leucocythæmia, and in the remaining twenty cases there was marked hypertrophy. In eight cases of lymphadenoma which had come under the observation of Dr. Greenfield there was only one in which the spleen was unaffected, and in five the typical infiltration was found in this organ. The statistics of Dr. Turner went further, and tended to show that in by far the larger number of cases the disease is not even confined to the spleen and glands, for in seven out of nine cases which had occurred in the London Hospital, and the particulars of which he gave, there were diffused lymphatic growths in many of the other viscera, as the kidney, liver, intestines, etc., whilst in the remaining two cases there had been no careful examination of the other organs. Regarding the presence of the symptom leucocythæmia, all the speakers agreed in stating that where the disease was most developed in the spleen this symptom was present in nearly all the cases; whereas if the disease were mainly seated in the lymphatic glands it was rarely observed, the blood presenting the appearance of well-marked anæmia only. Where both spleen and lymphatic glands were involved it was sometimes met with, and sometimes not; but the statistics did not show whether the presence of this symptom depended upon the existence of typical infiltration of the spleen or upon simple hypertrophy. The occurrence of leucocythæmia in disease of the lymphatic glands only, though evidently rare, has been placed beyond a doubt by the accounts given of this condition by Virchow, who has even described a noteworthy difference in the appearance of the leucocytes occurring in splenic disease as compared with those which are found in lymphatic gland disease.

The results brought forward in the discussion in the Pathological Society tend to show that we have hitherto been much too ready to draw sharp distinctions between conditions which run imperceptibly into one another, and which are probably only varieties of development of some one morbid tendency. Not only have we been drawing sharp lines of demarkation, but we have adopted a classification based upon two very different grounds; for we have made one series of diseases dependent for their points of distinction upon locality of lesion, and a second series dependent upon the presence or absence of a certain symptom. We talk of splenic disease and lymphatic disease, — a difference based upon locality of lesion; whilst lymphatic disease is subdivided into leukæmia lymphatica and anæmia lymphatica, according as there is marked increase in the relative number of white corpuscles on the one hand, or simple progressive anæmia on the other. In addition, we have myelogenic disease, that is leukæmia associated with disease of the bony marrow, and simple lymphoma of one or more organs, which do not come within any of the previous categories.

Now these subdivisions with their elaborate nomenclature, though perhaps of service for clinical purposes, are eminently unscientific, and most certainly stand in the way of a general and philosophic treatment of the subject. There is a natural tendency to erect every condition thus individualized into a separate entity sharply distinguished from all others, and in order to define these entities more clearly great stress is laid upon symptoms which are in reality mere accidental concomitants, the presence or absence of which is determined by slight modifications in the seat or in the character of the lesion; the result, that closely connected varieties of disease, all of which spring from one root-stock, have come to be regarded as almost or entirely independent of one another. We must endeavor to widen our field of vision to get a comprehensive grasp of the whole of the subject at once, and extend our investigations from the various branches to the common trunk from which they all spring. We must seek whether there be not some one cause to which all varieties of lymphatic disease can be traced. We may not be able to give a thorough explanation of the origin of this cause, nor of the way in which it acts, any more than we can say what is at the bottom of the rheumatic diathesis, or why, in acute rheumatism, the fibrous membranes are especially prone to attack; but we shall probably come to look upon all these diseases of the hæmatopoietic organs as the local expression of some constitutional tendency. In so far as this constitutional tendency shows itself in a slowly progressive morbid nutrition, it may be said to be analogous to cancer; but it differs from cancer in that it appears to attack only one kind of tissue, namely, the lymphatic. We shall thus add another to the long list of constitutional diseases having a variety of local developments, and by doing so we shall be more easily able to give their due significance to these local varieties. The French have been much more ready than we in England to look at the subject in this light, and they have invented the term "lymphogenic diathesis" to include all forms of the disease; but our tendency has been to specialize rather than to generalize; we have studied with the eyes of the clinician rather than with those of the scientific pathologist. To how great an extent this has been the case was evidenced in the late discussion, where Dr. Goodhart, who advocated our seeking points of contact between the several conditions he described, was rebuked for his temerity by no less an authority than Sir William Gull, who considered the "aim of pathology to be to individualize and differentiate, and not to generalize."

In conclusion, I would venture to inquire whether the presence or absence of leucocythæmia in disease of the lymphatic glands may not depend upon the relative amount of disease in the specific glandular tissue and in the fibrous reticulum of the gland. In some cases the glands were found converted into masses of fibrous tissue, and in others there was very marked increase in the gland pulp. Now, as it is this latter element which is believed to manufacture white blood corpuscles, in the former case we should have diminution in white blood corpuscles and the production of simple anæmia, whilst in the latter we should have increased formation of leucocytes. In the same way it would be easy to suggest reasons why this symptom should be so much more common in splenic than in lymphatic disease. I would, however, only offer these as indications for future investigation.

I have omitted the consideration of idiopathic pernicious anæmia because our clinical knowledge of this condition is still very imperfect, and nothing therefore can safely be hazarded as to its probable pathological analogies. Very little was said about it in the late discussion before the Pathological Society, and the feeling was rather in favor of separating it from the category of the lymphatic diseases.

LONDON, *May*, 1878.

SHORT COMMUNICATIONS.

THE ADMISSION OF WOMEN TO THE HARVARD MEDICAL SCHOOL.

MR. EDITOR, — If female students of medicine are unable elsewhere to acquire a good professional education, there would seem to be ground for the medical school of Harvard to open its doors to them. It is true that every student should have the opportunity of acquiring a thorough education. That the step suggested would have a deleterious effect on the school there can be little doubt. Coeducation of the sexes in medicine has, I think, always worked badly, except where the two sexes in medical classes have been united by a common feeling of martyrdom, or been moved by a common spirit of proselytism.

Such must be the experience always, for the arguments on the question of coeducation in general cannot apply to that in which the science of the human body is taught, at least with our present social structure.

There can be no more objection to the two sexes being educated together than to their association together in any other social relation *until* their studies and exercises touch subjects on which by common consent the proprieties demand silence. When this point is reached, for the success of the students — not for the safety of their morals — the sexes should study apart.

But it is said that physicians should meet each other on a basis of high ethics and science and forget sex. This is both true in principle and possible in practice. But students are not physicians, and time is required to develop the average young man who takes up the study of our profession to this basis. Some experience with students of both sexes has impressed the writer that the woman student has attained this state by the time her resolution is formed to become a doctor. But the man student, as a rule, requires time to acquire the professional feeling.

Ten years ago a trial was made of mixed classes in the Chicago Medical College. Women were admitted on the same terms as men, and several entered and attended one course of lectures. They attended all the exercises, including the clinics and dissections. They were very faithful and conscientious students, and seemed to find no difficulty in feeling that they were learners, instead of simply women in the presence of a concourse of men, whenever in the lectures a topic was reached that touched the sensibilities, or they entered the dissecting room, or a patient was presented at the clinic in a plight that would shock a mixed audience of lay people. Their brothers and some members of the faculty were less fortunate. Many of these pupils found difficulty in forgetting that they were men in the presence of ladies, and not learners only, and the annoyance and embarrassment were so great, and occasionally the rudeness on the part of some male students who forgot themselves became so pronounced, that at the end of the term the faculty gladly gave up the experiment.

As a consequence, a college was at once organized for the education of women exclusively, and has been in successful operation ever since. It is found that here women can acquire a better education than at either of the colleges for men, the curriculum being the same or higher, and there has been no dissatisfaction with this arrangement.

But the question is a difficult one to discuss, and one on which you are sure to be misunderstood if you oppose any demand of the woman movement. For the advocates of that movement seem unable to allow you to say that women are different from men without insisting that you mean that they are inferior.

To say that men and women should be educated in medicine separately is no disparagement to women students, nor is it opposition to the free and equal entry of women into the profession. It is simply deference to an almost universal feeling of the sexes toward each other, — a feeling with which from childhood up we are indoctrinated by the civilization of our time.

If Harvard is able to establish a woman's medical school that will give instruction of as high an order as the present school it would probably be a good thing for the institution, and the new school would take rank at once by the side of its elder brother as the first in the land. But to make a mixed school of the one you already have would add an additional load to the heavy one she is already carrying in the interest of better education and higher requirements. The woman's movement, essentially just and correct as it is, cannot afford to molest Harvard. It has most to gain by allowing the latter to work out the problem it has in hand.

CHICAGO, *June* 20, 1878.

REMARKABLE CASE OF PARALYSIS, WITH SPONTANEOUS RELIEF.

BY O. R. BACHELER, M. D.,

Medical Missionary, Midnapore, India.

TÁRA KHÁN was a prisoner in the jail at Midnapore. He was a Mohammedan from Eastern Bengal, age about thirty, well formed and well nourished, condemned to seven years' imprisonment for robbery, six years of which term he had already served.

On July 1, 1876, he was admitted to the jail hospital for paralysis of the left side. I watched the case with a good deal of interest during the six months that he was under treatment, making, in connection with the attending surgeon, frequent and thorough examinations.

There was complete paralysis of both nerves of motion and sensation of the affected side, the line of demarkation quite distinct, the median line of trunk and head. There had been a case of feigned paralysis in the jail some months before, in consequence of which this case received special attention, with constant watching and the application of a variety of tests on the part of the hospital attendants.

From notes made at various times I see that the treatment was (1) blisters to the neck (2) galvanism once daily for a month, (3) a course of bromide of potassium with tartar emetic, (4) strychnine one sixteenth of a grain daily for fifteen days, etc. Diet, milk, one pint to a quart daily.

The patient remained much the same for four months, except that the appetite and strength were gradually failing. At the commencement of the fifth month he was in a moribund state for three days, quite unconscious and pulseless for several hours, from which he slowly rallied. From this date remedies were discontinued. His condition seemed utterly hopeless, while emaciation and general weakness increased daily. His position was invariably upon the back, except occasionally when his fellow prisoners would raise his head and shoulders upon pillows. He had not strength to change his position in the least.

On January 1, 1877, the queen was proclaimed Empress of India, and in honor of the event many well-behaved prisoners were released from the jail. Tára Khán, having but six months more to serve, and withal apparently near to death, was thought to be a fit subject for the queen's favor, and was accordingly released. Three men raised him upon his feet and helped him to walk from the hospital to the superintendent's office, about forty rods, where he sat waiting his turn. His dismission paper was made out and handed to him, when he immediately sprang to his feet and walked away. It was noticed that there was a dragging motion of the left leg, but not sufficient to impede his walking. As the released prisoners were required to leave the town immediately, this man disappeared with his fellows, and has not since been heard from.

I have been induced to report this case thus minutely in consequence of some remarks that appeared in your JOURNAL some months since touching the influence of certain religious emotions on the diseased nervous system. I think there are a sufficient number of well-authenticated cases on record to show conclusively that under the influence of a sudden shock produced by emotions of joy, sorrow, fear, or fright a paralyzed nerve or system of nerves may be restored to their normal condition. Whenever religion claims like results for its emotions it must be where these conditions are absent, and these conditions being absent the claims of religion are worthy at least of careful consideration.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending June 22, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	469	22.31	23.42	28.71
Philadelphia.	876,118	309	18.34	18.80	21.54
Brooklyn.	549,438			21.51	25.50
Chicago.	460,000	107	12.09	17.83	22.39
Boston.	375,476	137	18.97	20.10	24.34
Providence.	100,000	18	9.36	18.81	19.20
Lowell.	55,798	15	13.98	19.09	22.50
Worcester.	54,937	14	13.26	14.07	22.30
Cambridge.	53,547	17	16.50	18.69	20.83
Fall River.	53,207	13	12.71	1.35	24.96
Lynn.	35,528			0.42	19.67
Springfield.	33,981	5	7.66	6.02	19.77
Salem.	27,140	7	13.41	0.38	21.15

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be postponed to the second Thursday of July, the first Thursday being a public holiday.

HENRY M. FIELD, M. D., *Secretary.*

NORFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held in Kennedy Hall, room 5, on Tuesday, July 9th, at two o'clock. Papers, communications, etc.: —

(1.) Malignant Disease of the Uterus, Dr. C. E. Wing.

(2.) Medical Ethics and "Codes of Ethics," Dr. Henry A. Martin.

Lunch at four P. M.

A full attendance is earnestly desired for the consideration of the adoption of a new by-law.

HENRY R. STEDMAN, *Secretary.*

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ADDRESS DELIVERED JUNE 11, 1878,

BY MEDICAL EXAMINER ALFRED HOSMER, M. D.,
President of the Massachusetts Medico-Legal Society.

THE programme which announces the arrangements that have been made for the current anniversary of the Massachusetts Medical Society presents an unaccustomed feature, and intimates the existence of an organization hitherto unknown, namely, the Massachusetts Medico-Legal Society. To-day that organization asks a kindly recognition, and seeks admission to the large circle of associations whose origin and preservation are due to the intelligence and industry of thoroughly educated and devoted medical men; and of which it may be said that they are at the same time the evidence and the means of a broader and better culture and a more active progress in science. By the power of combination they are the strength of our profession, and through the salutary influences which they cannot fail to exert become indispensable elements in the safety of the commonwealth.

The objects of this new society are briefly stated in the second article of its constitution in the following language: —

"Its purposes shall be to elevate the official character of the medical examiner, and to assist him in the discharge of his duties; to collect and utilize such facts as have a medico-legal value; and to excite a general interest in the subject of forensic medicine, and to promote its successful cultivation."

In deference to the wishes of the executive board, I shall attempt to set forth the importance of these several purposes. Although it is not possible to suspend the operation of that law which obliges the common man to speak common things, I hope to utter some word which shall eventually secure the good will, sympathy, and efficient coöperation of all who have a correct appreciation of the departure which is the essence of this whole movement, one of whose products is the medical examiner. That official owes his birth to the pressing and unavoidable necessity which had arisen for making an entire change in that method of initiating certain legal proceedings in which the late coroner was at times tempted to take so busy and undignified a part. He was created by a legislative act which may fairly be called revolutionary, for it abolished every trace of an ancient system that was firmly incorporated into the usage of many generations, and which, in its old age, instead of gracing itself with those qualities which would make it venerable and strong, disgraced itself by the exhibition of a degree of corruption that decency and integrity could no longer tolerate. As a consequence the coroner was required to pay on demand the debt of unworthy ambition, and to make a compulsory exit. Forcibly impressed by the overpowering weight of executive decree, he discovered for himself a special phase of the law of gravitation. But at this point the claims of simple justice must not be forgotten. Although the name of coroner was so often accepted as the synonym of incompetence, which was bad, or of dishonor, which was worse, there were memorable exceptions, notably among physicians who held the office, and who saved for the old order of things what little there remained to it of good repute or of utility to the public.

Thus an immense advance had been made in the direction of reform ; yet it was evident that a fatal mistake would be committed unless it were assumed that what had been accomplished by the powers resident in the State House was only initial and not final. The new system could be aptly compared with a vigorous infant, born to a cordial welcome, endowed with a certain tenacity of life, readiness for growth, and capacity for development, but which without intelligent care and that opportunity which is its natural right is doomed to an imperfect life, and is defrauded of the possibilities to which it might have attained. If this movement were left alone at the point to which it had been brought by the legislature and the governor and council, the community could never have derived from it the full benefit which it is capable of yielding ; disappointment and disrepute would have overtaken its projectors and advocates ; it might have forfeited all claim to the name which was its early strength, and which justified and secured the measures that it demanded ; it would have been a substitution, of uncertain value, instead of a genuine reformation. In view of these considerations, as soon as the executive had made the appointments which were required by that act which in its very first and shortest section effected the extinction of the coroner, attention was immediately directed to the needs of the medical examiner, especially in connection with the conditions upon which depended his complete success in an untried line of duty and action.

Official quality is but the exercise and expression of personal character, and the perfection of the former will be in inverse proportion to the defects of the latter. Any scheme looking towards the elevation of the official quality of the medical examiner in a general sense must deal with him directly as an individual. With that idea, this society proposes, in the first place, to protect him against the dangers of isolation, which so encourages degeneration and alienation and tends to produce an individuality composed of the most vicious elements: of self-conceit, a thing of luxuriant growth that thrives best upon a barren soil; of wrong-mindedness in much that relates to processes of thought and of logic; of error in much that relates to matters of fact. On the other side, it will open to him all the advantages of association, without which firm and symmetrical development is scarcely possible for the ordinary man. Within its circle he must acquire that true and exact self-appreciation which comes only of frequent and forcible contact with equals and superiors. In all difficult and unsettled questions which concern him as an officer, he will be able to hold his opinions in equilibrium with the average judgment of his official brethren. In all his methods he can be guided by the example of the most competent and most accomplished. He will be enabled to increase his knowledge rapidly and readily by the addition of the best ideas of all those whose thoughts and studies have the same general scope and purpose as his own. The rule of his official conduct will be a code of ethics, not arranged by himself, but an utterance which unites in itself the purest voices of the best men. If necessary, his *morale* will be reënforced upon the principle by which the man who, in a single-handed combat, would fail to gain any reputation for bravery may become an efficient soldier in the ranks if flanked on each side by a good fighter. And the cultivation of courage is not a thing of secondary importance. This quality used to be designated by a term that is in close etymological relation with the word virtue. In it certainly lies the possibility of many virtues. Without it let no one think of honesty and its derivative, individual consistency. Even imperfect honesty, if the phrase may be allowed, is a disqualification for which there is no possible compensation.

From that point of view which regards intellectual things it is easy to see the benefits which will accrue from the formation of a society. With useful subjects discussion and debate are an invigorating form of mental exercise, and encourage precision in the processes of thought. Distinctness and exactness cannot be asserted of any conception until it has been expressed in clear and intelligible phrase. Perhaps in the realm of the immaterial there prevails a law analogous to that which determines propagation in the human species, so that every idea must acknowledge a double parentage, known or half known. At any rate many a brain has been fertilized and stimulated into fruitful activity by the force of a suggestion opportunely dropped. Competition and congregation quicken both motions and emotions. A race against time will not bring out the best speed, and cheers come only from a crowd. It is believed that the medical examiner has entered upon a new career with all the impetus that comes of an enthusiasm which is substantial and not spasmodic, and that, whatever he may achieve, his aim will not be below the level of that which his ablest colleague may attain.

The society realizes that, if it would acquire all the benefits of combination, it must not simply stand for a result which is obtained by the arithmetical process of adding together the elements of which it is to be composed, but must represent something like the phenomena of a chemical union which shall produce some qualities unknown in the constituents, and lead to some new expression of force. It will endeavor to confer upon membership such value as will attract those medical men whose tastes and education interest them in its objects. It will strive to give such a position to the medical examiner that it will not be in vain that the office seeks the strongest in our ranks, more properly among those not yet arrived at the middle period of life. It will attempt to establish for the appointment the reputation of a professional promotion, and as a vacancy may now and then occur, using its influence to secure a substitute who shall be superior to the original, it will certainly do something towards improving the official quality of the medical examiner.

But these matters are prospective, and of less immediate importance than the necessity of furnishing at once that which shall relieve the inexperience of the new officer, and render some aid in the discharge of his duties. While this object must always hold a high place among the purposes of the society, the obligation which it imposes can never be more pressing than it now is.

In his official capacity the medical examiner represents the commonwealth, who, in the powers with which she has invested him, has given us the measure of her confidence and expectation. The former must not be abused, and the latter must not be disappointed. As the very first preparatory step he must know the provisions of Chapter 200 of the Acts of 1877, which defines and confers his authority, and determines the modes in which it is to be exercised. But to read language as a grammatical combination of words is one thing, while it is quite another to reveal its true and intended meaning by a proper interpretation. The General Court has not always declared its will in expressions of such perspicuity that all thinking men have been agreed as to the particular shade of thought which has moved it to action. It is possible that the excellent law which is designed to regulate medical examinations and certain proceedings subsequent thereto may not be clear and explicit at all points. And in anticipation of any doubts and differences of opinion that in this connection may arise in the minds of medical examiners, attention will soon be asked to an exposition of this subject from one of our associate members who has a parental interest in the statute, and will speak with the advantage of having known it in the embryonic state. In this matter it is best that the medical examiners should realize and remember their dependence upon another profession. And if at any other time than that of some urgent necessity they shall find themselves attempting to translate some legislative dialect into plain English, let them imagine an autopsy in the hands of an attorney, or ask the value of any opinion which a counselor at law should offer upon a difficult question in scientific medicine. Important official relations with the lower courts ought to place within easy reach advice and assistance from competent judicial sources.

Having thus obtained the best possible definition of his position under the law, and of the functions which appertain to his office, the medical examiner will discharge his duties with a facility and success which will depend upon his skill in exposing for inspection the various parts of the body, and his ability to recognize and appreciate any deviations from the normal standard of structure. Though he cannot command all the advantage with which the accomplished pathologist would approach such work, from the instructions of the latter he may derive very great assistance and may learn the most expeditious manner of supplying any defects that exist in his own knowledge of morbid anatomy. A part of his business is to make a scientific investigation, the field of which is the human body. He must be able to differentiate the true pathological changes which are in some way associated with one or more forms of what we call disease ; firstly, from those conditions which depend solely upon the mode of dying or the circumstances under which death occurs ; and, secondly, from the simple post-mortem alterations which, though often quite striking, only prove that certain tendencies, dangerous in themselves, are no longer restrained by an active vital force. In the wide range of pathological phenomena distinction must be made between those which, as being inevitable, are in a certain sense natural and those produced by some mechanical, chemical, or toxic agency. Still farther, it is of the utmost importance to determine the relation which exists between the death that has occurred and any organic lesion which the eye may detect with or without microscopic aid. It sometimes happens that an autopsy, through its failure to discover anything wrong, may be unable to explain and justify the fact of death ; and it is possible that dissolution now and then depends upon some invisible and inappreciable cause which is quite independent of marked and obvious changes that may be disclosed in the progress of a medical examination. However this may be, the lessons of the pathologist are not the sole reliance, and many a problem that cannot be solved by the rule of pathology is transformed into a comparatively easy question when brought into the presence of the chemist. When by the propriety or necessity of a particular case the medical examiner is admonished to invoke the aid of chemistry for the completion of a work that he is powerless to finish, the preliminary arrangements must include such preparation as will best facilitate and render most efficient analytical search by suitable tests, and also such preservation, with sure means of identification, as will prevent any violation of the law of evidence from nullifying testimony that is intrinsically good. With this brief allusion I leave these points to be stated with due fullness and force by gentlemen who will command an authority that is accorded only to those who have made thorough studies of special subjects.

The collection of medico-legal facts is to be effected by a very simple and certain method. According to a schedule which is intended to touch all necessary points, every medical examiner within the jurisdiction of this organization is required to "forward to the corresponding secretary a report, as full and complete as possible, of each case which shall receive his official attention." Through its representatives the society will obtain contributions from almost the whole area of the State. The field is a large and tolerably rich one, but its fertility will depend upon the care and attention with which it is cultivated; upon the degree of thorough and appreciative observation which is bestowed upon the several cases. A summary of the products of the first culture, assorted and arranged by a careful hand, will soon be presented to you. It deserves some distinction as being the first attempt to embody in a single report those facts which make up the history of Massachusetts during a period of six months in all that pertains to deaths known or supposed to be from violence. It must contain material which is capable of being wrought into that more perfect and elaborate form which, in the higher sense of the term, constitutes an acquisition in science. The regular publication of facts thus secured and certified is a process of utilization for general purposes; but in a special way it will benefit the individual medical examiner by enabling him to appropriate for his own use something from the annual experience of the whole corps. It will make such addition to his knowledge as will render the vision keener while it enlarges its range, so that in each succeeding year observation will be more accurate and more prolific.

The average Massachusetts ear has rarely heard of forensic medicine; it is not a familiar designation. Although a necessary thing in the social fabric, it has had but a vague and ill-defined existence. Its importance has never been recognized among us with all the formality to which it is entitled. So far as I am aware its cultivation has never held for practical ends the prominent place among the avowed objects of any society that has been formed in the State. However, the department of health of the American Social Science Association is declared to be a "society for the study of sanitary science and medical jurisprudence." The efforts of this body in the latter direction, as the secretary informs me, have not extended beyond a movement which should be accredited to a gentleman whose ready assistance to-day bears conclusive testimony to his friendship for the medical examiner. That movement aimed at the abolition of inquests as they were.

The province and power of forensic medicine once understood, the interest in it cannot fail to be widely spread. Of the community which finds a representative and an embodiment in each individual member, it is the safeguard. It appeals to the instinct of self-preservation in one of its forms. It furnishes the means of establishing the fact of crime committed against the person, no matter whether that crime be fatal, non-fatal, or, as in certain cases of fœticide, mixed. With the proof of offense it fixes the basis and starting-point of any procedure that proposes to detect the offender, the limits of whose accountability forensic medicine must define in accordance with those distinctions which originate in the difference between a sane mind and an unsound or defective one. In a double sense it is the instrument of right, and in the protection and advantage which it brings it cannot fall below the high place which, with so much enthusiasm, has been assigned to sanitary science as an efficient agent in the hands of philanthropy. Of the many subjects which come within the scope of forensic medicine, although some commend themselves only to medical men, there are others which ought to attract the intelligent thought of non-professional people and receive the benefit of its energy. The deep interest which physicians must take in this branch of their profession grows directly out of their tastes and aptitudes, the quality of their knowledge, and the nature of their occupation. It is their exclusive privilege to be the masters in forensic medicine. Therein they find one more opportunity for the exercise of high abilities and the application of varied attainments, as the requisites for success are a quick and thorough perception, a judicial mind, and a rich and mature experience. From it they derive the advantage of close relations with another form of liberal education. Within the medico-legal domain there is a point at which medicine and law come in contact; their work is that of coöperation; their interests, if not identical, lie along lines that converge to a common end. It is the point at which, on the one hand, scientific investigations are pursued under the protection and according to the forms of law, and, on the other, medical evidence determines the administration of law in consonance with the requirements of justice and of facts.

The time has arrived for calling into existence the forensic physician, properly trained and equipped, and invested with a due rank beside the surgeon, the accoucheur, the oculist, and the aurist. He will forthwith appear as one of the results of the successful cultivation of forensic medicine, which, as being in a certain sense a specialty, should not engross the entire attention of young men, nor should it repel and discourage those who have given their early years to ordinary practice. Specialism finds unfailing strength in general and generous culture; its object is not to limit but to increase attainment; it was never intended to pervert the mental vision nor to narrow and cramp the operations of the intellect.

A second result may possibly be found in an improvement in the present irregular, inconsistent, and unsatisfactory method of medical evidence. By the unanimous concession of all honorable men[1] a radical change is needed. Attempts have been made in this direction, but they have not succeeded because they were relatively premature and did not receive the sympathy of the prevailing sentiment. May we not now look for a new system, the details of which are yet to be arranged, through which we shall derive testimony which, as being scientific, shall be impartial, and as being based upon an enlightened experience shall be truly expert?

It is possible that another result may be expressed in some provision which our medical school may be induced to make for instruction in a department of medical knowledge which its present curriculum does not explicitly recognize. Some of the most important matters which are fundamental to this branch are thoroughly taught, but it still remains for a competent master to point out the relations between these elements and the principal subject, to supply that which other departments are not expected to furnish, and to teach forensic medicine as a whole.

In the dependence of its infancy this society will invigorate itself by contributions obtained from several sources, — from pathology, chemistry, the science of mental disease, and from statute law. In return for the assistance thus rendered it will preserve an unwavering fidelity to the purposes of its organization, and according to its power and its opportunity it will strive to do its full share in the endless work upon which human progress depends. For stability, power, and influence it looks largely to the members of the medical profession, who as medical examiners from its regular constituency or as medical men are in duty bound to extend to it both hands in fellowship. It is now ready to speak for itself in its first communications to the State society. And in explanation of an obvious quality which characterizes a part of them, we will simply remark that the novice can find a safe starting-point only among elementary things.

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[1] JOURNAL, vol. xc., page 387.

MICROSCOPIC ORGANISMS IN COCHITUATE WATER.[1]

BY ROBERT WHITE, JR., M. D.

THE subdivision of the vegetable kingdom known as the Algæ includes the innumerable vegetable structures, made up of simple cells closely applied to each other or existing separately, which are found in all collections of fresh water exposed for any length of time to the air, and on damp ground and walls. Their great difference in shape and organization is produced by the change in the form, number, and arrangement of the simple vegetable cells, which individually possess the vital physical functions necessary for their growth, development, and reproduction, and which in the higher plants are performed by organs differing essentially in their office and structure.

The class presents a wonderful variety of form, structure, and color, and their presence is so universal that if a quantity of water that has been carefully distilled or boiled till all vestiges of life have been destroyed be exposed to the air for a few days it will be found that several species of Algæ, the germs of which have been introduced from the atmosphere, are flourishing in it. The majority of the fresh-water Algæ are invisible to the naked eye.

The families of the Bacteria and the Vibriones present to the microscopic student the most minute objects that he is called to examine. Averaging, as many of the species do, but from $\frac{1}{10000}$ to $\frac{1}{100000}$ of an inch in diameter, the difficulty of making out their structure and of observing the physiological processes going on in them will be readily appreciated. Their prevailing form is that of a single minute globule, or two or more of these united in a chain, or a filament of varying length and possessed of active motile powers. They are usually associated with the putrefactive process, and their presence in drinking water is generally due to their development among the decaying vegetable structures that are always present to some extent.

The genera of the Coccochloris and Protoccus are numerously represented in our liquid, and are very interesting species, the simplicity of their structure readily permitting the process of reproduction to be observed in them. They furnish typical examples of the primitive vegetable cell, composed of a cellulose envelope lined with a thinner membrane, the primordial utricle, inclosing the nucleus and protoplasmic cell contents of varying shades of green or brown. The species mentioned are also invested singly or in groups by a hyaline gelatinous membrane. (Figure 19.)

The cell thus formed is a complete and independent individual, capable of carrying on all the physiological processes necessary for its nutrition and reproduction. In its simplest form multiplication occurs by binary subdivision : the endochrome (cell contents) gradually assumes an hour-glass form, the central constriction advancing until the two halves of the cell have completely separated and lie in contact within the gelatinous envelope (Figure 19 A) ; each new cell secretes an envelope for itself, the parent membrane disappears, and the new cells are free to repeat the same process indefinitely ; so that there is seemingly no limit to this multiplying power, and it probably closely simulates the process of cell multiplication by which the principal growth and development of the higher plants and animals is attained. Another method of reproduction is by conjugation, where two contiguous cells gradually become fused together, forming a new cell (spore), in which the process of binary subdivision goes on with renewed vigor. (Figure 19 D.)

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[1] Concluded from page 8.

Scarcely any collection of fresh water can be found that does not contain some specimens of the Desmidaceæ, a family of confervoid Algæ whose brilliant green color, peculiarity of structure, and variety of form render them most striking objects of microscopic study. Their distinctive feature is that while really unicellular most of the species have a central suture, which gives them a perfect bilateral symmetry indicative of a tendency to divide into two segments, as in Closterium (Figure 23), Cosmarium (Figure 30), and Micrasterias (Figure 26). Multiplication is accomplished by binary subdivision, as seen in Figure 24, each of the resulting separate old halves developing a new valve by budding ; and true generation by a process of conjugation of a somewhat higher character than that seen in Coccochloris, — the walls of two contiguous cells giving way at the point of contact, the endochromes fuse together and form a spore, which remains dormant for a time and then develops into a perfect type of its species. (Figure 25.)

The beautiful microscopic plants known as the Pediastrum present the appearance of a flattened, star-like disk ; they are made up by the aggregation of a number of cells in symmetrical order, with hyaline membranes interposed; those forming the periphery of the disk have each a pair of horn-like protuberances, which impart to the plant one of its most characteristic features.

The mode of reproduction in Pediastrum furnishes one of the most beautiful illustrations possible of the order and system prevailing in nature, even among the lowest forms of life. Multiplication is carried on by the segmentation of the contents of one of the peripheral cells, until the number of zoöspores equals the number of mother cells in the plant, normally sixteen, but on account of the reproductive process generally going on in one or more of the cells they may reach any multiple of that number. The new-formed daughter cells escape from the mother cell inclosed in the vesicle which originally formed the inner membrane of the parent cell. For an hour after their discharge the new cells are in active movement within the inclosing vesicle, but gradually lose this motion, and show a tendency to adhere to each other and to arrange themselves regularly in geometrical pattern. At the end of four or five hours they are seen to increase in size, and those on the outside of the circle develop slight protuberances which indicate the coming of the characteristic horns. (Figure 21.) At the end of forty-eight hours the cells are separated only by the thin hyaline membrane investing each, the horns have attained their full growth, and the beautiful and complex organism represented by Figure 22 is formed, in any of the cells of which the same reproductive process may be repeated.

The family of the Diatomaceæ are more universally represented in nature than any other members of the vegetable kingdom; their most striking forms exist in vast numbers in the salt water, but many interesting species are found in both stagnant and running fresh water; they flourish too on the bare ground, in the polar ice, in the air of the ocean hundreds of miles from land, and as parasites on other plants. They differ from all other vegetable cells in the composition of their envelopes; instead of the cellulose, of which these are usually made up, those of the Diatoms are composed mainly of silica, a mineral which enables them to retain their form and to resist processes like the application of heat and acids that are destructive to all other vegetable organisms. This silicious cell wall is sculptured with geometrical figures and lines in such beautiful and intricate designs, and withal so distinct, that their study is the delight of microscopists; and even to amateurs there is no object that can be displayed on the field of the microscope that is of greater interest or beauty. There is an immense variety in the form and size of the valves and the character of the markings; some of these latter are so fine that they occupy a space of 90,000 to an inch, their definition by even the highest power of the microscope becomes a matter of considerable skill, and the highest art of the engraver and draughtsman is hardly sufficient for the reproduction of the beautiful appearances these unicellular plants present on the field of the microscope. The cells are often united in a filament as in Fragillaria (Figure 40) and Melosira (Figure 46), or in rectilinear or asteroid forms as in Tabellaria (Figure 36) and Asterionella (Figure 32) by gelatinous connections. In the living state they are usually imbedded in an abundant coat of this substance. The cell contents have not the brilliant green color present in the Desmids and most of the unicellular Algæ, but is usually of a yellowish-brown tinge, and is aggregated towards the walls, leaving a clear central space with vesicular nucleus and several translucent globules of varying size and apparently of fatty composition.

In the recent state the presence of the endochrome and the gelatinous coating obscures the silicious sculpturing, and it is only after the destruction of both, which rapidly occurs on the death of the organism, that these markings are to be seen in all their extraordinary beauty.

Our knowledge of many of the physiological processes of the Diatoms is not in a satisfactory state, but it is known that, like the Desmids, they possess a spontaneous power of motion, and their process of conjugation is also similar, the walls of two contiguous cells breaking down at the point of contact, and the cell contents extruded from each other fuse together, and form a spore which develops into a perfect frustule. In numerous cases Diatoms form the only source of food for many of the minute animals present in both salt and fresh waters, and by their appropriation of the carbonic acid produced by animal respiration and decomposition they render the waters they inhabit better fitted for the maintenance of animal life.

The genera present in the Cochituate are the Amphora, Surrirella, Synedra, Diatoma, Navicula, Cocconeis, Asterionella, Tabellaria, Stephanodiscus, Melosira, in inverse proportion in the order named, the representatives of the last three genera being very numerous, and constituting the principal objects seen in the microscopic field.

Zoöspores are motile cells developed in many species of Algæ by segmentation of the cell contents, or as the product of conjugation ; in the former case the endochrome of a cell dividing into two, in the latter the endochrome of two cells uniting into one to form a spore, which is discharged. They are usually of round or ovoid form, and are furnished with cilia at one end, or, as in Vaucheria, over the whole surface. These appendages enable them to move about with great rapidity for an hour or two after their expulsion from the mother cell, when they gradually come to rest, acquire a cellulose coat, and develop into an organism like the parent structure. Many spores of the different forms of Algæ present in the Cochituate are to be seen in the microscopic examination of this liquid, and their extraordinary motions are likely to excite surprise in the observer not familiar with their character.

The organisms that have been described comprise all those forms that exist in our water supply in sufficient quantity to be of any importance, and it remains to consider their significance and their influence on the water they inhabit. The existence of the Amœbæ or Infusoria in any marked quantity would indicate water of unwholesome character.

The genera present in the Cochituate are those which are as often found in fresh running water as in that which is stagnant, and are represented by such a small number of individuals that their presence does not impart any essential characteristic to it. These facts also apply to the next higher class of animals, the Rotifers, and especially to the species most numerous in the Cochituate, Anurea Heptodon.

The Entomostraca are very fully represented, both in variety of species and number of individuals, in our liquid ; they are the well-known "water fleas" that almost universally inhabit ponds and lakes, and possess many features in common with the lobster, crab, and shrimp, and our involuntary consumption of them is attended with no worse consequences than follow the ingestion of the gastronomic *chef d'œuvres* prepared from their edible kindred.

The presence of Bacteria and Vibriones being generally associated with the putrefactive process, their marked prevalence in any water supply would indicate its unfitness for use. In the Cochituate they are only sparingly seen in connection with the fragments of decaying vegetable tissue occasionally found in it.

The habitat of the Desmids and Pediastriia is almost invariably pure and clear water; they may be sought for in vain in turbid or putrefactive stagnant waters, and the action of sunlight appears to be necessary for their free proliferation and growth. Nothing has been observed in their life-history, or the conditions under which they appear, to show that their presence in drinking water is deleterious, but on the contrary all observations indicate that their growth in water intended for domestic purposes exercises a beneficial influence on it, for the same physiological conditions prevail in the growth of these minute plants that are so well recognized in the higher vegetable structures, and which preserve the equilibrium of the assimilative processes in the animal and vegetable kingdoms. Drinking water for cities is generally drawn from lakes or ponds, which, from the nature of their surroundings, must always receive much decaying vegetable material, if not animal matter in like condition. This gives rise to large quantities of carbonic acid and other gases, some of which the water also derives from the air it is in contact with and from the processes of animal respiration and decomposition going on in it. If no means were provided for counterbalancing the production of the gases, these bodies of water would soon become unfit for use, but by the action of the minute and innumerable Algæ in decomposing the gases, fixing in their own substance the carbon and nitrogen, and setting free the element necessary for animal life, the water is maintained in a state of comparative purity.

The Diatomaceæ are more numerous in the Cochituate than all other organisms; they grow and develop under the same physiological conditions as the Desmids and other confervoid Algæ, and exhibit the same properties of fixing carbon and liberating oxygen.

One bad feature connected with the presence of the Diatoms in any drinking water is the tendency of the gelatinous envelope which surrounds the cells or connects them with each other towards rapid decomposition; this tendency being much more marked in the soft parts of the Diatoms than in any of the other organisms.

It is the decomposition following the death of the various plants and animals inhabiting fresh water that imparts to it the offensive odor it acquires when remaining stagnant for a time; and without doubt the bad taste and smell which periodically appear in the water supplies of nearly all our large cities are in some way connected with the growth and decay of the numerous organisms present in them, but the exact conditions on which these are dependent we are unable to state.

In summing up the influences on the Cochituate of the microscopic organic elements present in it, it is only necessary to say that noxious organisms, animal or vegetable, exist in such minute quantity as to be without significance: the higher order of animal forms which are present in considerable number have no deleterious influence on the liquid they inhabit, and are closely allied to animals that are freely used for food; and the higher vegetable organisms, which comprise by far the greater percentage of forms in the water, are not only free from any injurious influences, but their presence is essential for preventing the accumulation of deleterious products from the various sources to which all collections of fresh water are liable.

As it comes to us in the city no matters are found in the water to indicate contamination by house refuse or sewage, but the presence of the very large quantities of organic matter shown by microscopic investigation, and the facility of rapid multiplication which this possesses, indicate the necessity of carefully protecting our water supply from all sources of pollution. The liquid may be readily freed from the organisms in it by attaching an ordinary bag strainer of flannel to the hydrant faucet and allowing the water to pass through it; the liquid thus strained is almost absolutely free from forms of any kind.

In conclusion, I would direct the attention of the student of natural history to the fertile field for observation that he will find so accessible in the water supply of our houses, the careful examination of which will give him an extensive insight into the wonderful laws governing the growth and reproduction of the lower forms of animal and vegetable life that will be a source of great satisfaction and information to those not already familiar with them. To the medical student the observation of processes so closely allied to those involved in the growth and development of the animal tissues is attended with great interest and benefit.

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RECENT PROGRESS IN OBSTETRICS.

BY W. L. RICHARDSON, M. D.

Prevention of Puerperal Fever. — The idea that puerperal fever is of septic origin is rapidly gaining ground, especially in Germany, where it is now generally admitted to be a disease identical in its origin and course with septicæmia, as it appears in the surgical practice of hospitals. That rents, more or less serious in character, should constantly occur during the passage of the child from the uterus to the world cannot be doubted. These wounds are of course constantly liable to absorb the lochial discharges, containing as they must the very material needed for originating a case of septic poisoning.

Obstetricians, who are in a position carefully to observe the convalescence of women who have been delivered in a lying-in hospital, are constantly called upon to note the sudden rise of temperature and the general febrile disturbances which frequently create no little anxiety on the part of the medical attendant, although they may subside after a few days without any serious result. Such cases are doubtless of the same origin as those well-marked cases of puerperal fever which so speedily terminate fatally. In these days, when an antiseptic method of treating operative surgical cases is recognized as the only rational method of procedure, it is not to be wondered at that obstetricians should have conceived the idea of introducing the method recommended in surgery by Professor Lister into the practice of obstetrics.

Dr. Fehling[1] (Leipsic) at one time used the carbolic spray during the labor, but owing to the fact that its use seemed to induce post-partum hæmorrhage he has since given it up, and now advises the adoption of the antiseptic treatment only during the convalescence.

The question of the septic influence of the lochial discharge has been ably treated of by Professor Kehrer,[2] who has made a series of experiments with the view of ascertaining the poisonous influence of normal and abnormal lochial discharges examined at different periods after parturition. The methods of conducting the investigation were by injection of the lochial fluid under the skin of rabbits, and also by the inoculation of parturient women. As regards the first series of experiments, Professor Kehrer found that in all cases the injection of the lochial fluid was followed by extensive inflammation of the cellular tissue around the point of injection. The severity of the inflammation increased in exact proportion to the time which had elapsed since the delivery. The injection of the blood which escaped from the vagina soon after the delivery was followed by no marked symptoms. The result of his experiments of the inoculation of puerperal women was that when the lochial fluid of the first and second day was used no noticeable symptoms were obtained. When a later lochial fluid was employed a decided local inflammation was produced. This inflammation was only local provided the lochia were taken from a healthy puerperal woman. Whenever it was taken from a patient in whom any puerperal disturbance had occurred, more serious and general symptoms were produced.

This result followed even though the lochia themselves appeared normal, the elevated temperature of the patient from whom they were taken alone showing the existence of some present puerperal disorder.

The question how to prevent puerperal fever is now engrossing the attention of obstetricians, especially in Germany.

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[1] Archiv für Gynaekologie, Band xiii., s. 298.

[2] Archiv für Gynaekologie, Band xi., Heft 2.

In 1870 Dr. Bischoff (Basle) advised[1] that as soon as labor began a bath should be taken by the patient, and that during the whole of the labor the vagina should be washed out every two hours with a solution (two per cent.) of carbolic acid. The medical attendant should be careful to wash his hands in a solution (three per cent.) of carbolic acid, and should always anoint his finger with carbolized oil before making a vaginal examination. In cases where the fœtus was dead and decomposed, or where the hand had to be passed within the uterine cavity, the uterus should be washed out with a solution (three per cent.) of carbolic acid. During the convalescence frequent carbolized injections should be made into the vagina and uterus for thirteen days. Any visible wounds found in the vagina should be touched with a carbolic (ten per cent.) solution immediately after the termination of the labor and a pad of wadding soaked in carbolized oil should be placed in the vagina and constantly renewed. This method has resulted admirably in greatly reducing the mortality and the numerous forms of mild puerperal diseases which were formerly of so frequent occurrence.

Professor Zweifel[2] (Erlangen) advises, however, a method of procedure much more simple, and one which seems to yield equally favorable results. All vaginal examinations during pregnancy are made with the hand, which has first been anointed with carbolized oil; the vagina is subsequently washed out with a carbolic solution. All visible rents in the vaginal tract are touched with a mixture of salicylic acid and starch (one part to five). Fehling suggests that in addition to this the vagina should be syringed out several times a day with solutions (one eighth to one tenth per cent.) of salicylic acid.

Langenbuch,[3] Schülein,[3] Richter,[3] and Schücking[4] have also contributed valuable papers, all strongly advising the use of an antiseptic treatment during the post-partum convalescence.

Professor Spiegelberg (Breslau) has, since 1874, followed this method of treatment with the result of five deaths in nine hundred labors.

Obstinate Vomiting of Pregnancy. — Dr. S. C. Busey[5] (Washington) reports several cases in which, all other remedies having failed, he obtained decided and almost immediate relief by the use of bromide of potassium. In every case in which he has used this he has succeeded in relieving the vomiting. His rule has been to give the bromide in doses varying from thirty grains to a drachm, dissolved in beef tea, to which brandy and laudanum may or may not be added, according to the general condition of the patient. This is to be given in enemata every four hours until the nausea and vomiting cease, and until the stomach can retain some simple nutritious food, and stimulants if there is any necessity for them. After that the bromide should be gradually withdrawn by a lengthening of the intervals between the enemata. The idea of this use of the bromide of potassium had been suggested to him by Dr. Girabetti, who had obtained excellent results from its use.

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[1] Correspondenz-Blatt für Schweizer-Aertze, 1875, 22, 23. Medical Times and Gazette, March 30, 1878.

[2] Berliner klinische Wochenschrift, 1, 1878.

[3] Berliner Zeitschr. f. Gel. und Gyn., 11, 1, 1877.

[4] Centralbl. für Gynack., 111, 1877; and also Berliner klin. Wochenschrift, 26, 1877

[5] American Journal of Medical Sciences, January, 1878.

The Management of Tedious Labors. — Dr. G. Hamilton (Falkirk) gives [1] the result of his experience in the treatment of thirteen hundred and seventy-one successive births with only three fœtal deaths. With some of his conclusions we cannot agree, as, for example, his strong predilection for straight forceps over the double-curved forceps now so universally used in obstetric practice. Some of his practical rules are, however, so well stated that we desire to call the attention of the profession to them. He considers that it is the length of the labor which especially proves hurtful to both mother and child. The first stage of labor should be little, if at all, interfered with, but its length should be a guide as to the second, which should not usually be allowed to be prolonged much beyond two hours, and even less when the first stage has been long and exhausting. The shortening of the second stage can be effected by supporting and pushing up the uterus over the head, or by the use of the forceps. If the head be high up the forceps should be applied, and when the head has been made to advance into the pelvis the instrument should be taken off and the blades be reapplied over the ears. Anæsthetics or ergot should never be given in the first stage, and in the second stage as seldom as possible. The former should be used only near the close of labor, and the latter with a view of increasing the pains and thus bringing the head within reach of the forceps, or else at the close of labor with a view of anticipating a threatened hæmorrhage. The application of forceps within the uterus should be avoided as much as possible, and this use of the forceps can often be escaped by assiduously pushing up the uterus with the fingers or hand both anteriorly and posteriorly. In this way the application of the instrument is made easier, and the risk to the mother is lessened. Whenever the face is to the pubes it is to be remembered that rotation to the left is sometimes easier than to the right, owing to the fact that the occiput encounters the rectum when the face is turned to the right. In cases where a post-partum hæmorrhage occurs, and supra-pubic pressure and the emptying of the uterus of clots have failed, he advises the use of pressure and counter-pressure by the introduction of the right hand under the uterus, while the left is placed above the pubes.

Choice of the Leg in Version. — Dr. A. L. Galabin contributes [2] an elaborately prepared paper, in which he discusses from a scientific and mathematical stand-point the relative advantages and disadvantages in the choice of the upper and lower leg in performing the operation of version. The conclusions which he arrives at are that by choosing the lower knee the following advantages are gained : —

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[1] Obstetrical Journal of Great Britain, June, 1878.

[2] Transactions of the London Obstetrical Society, vol. xix., page 239

(1.) The rotation of the fœtus on its antero-posterior axis by means of the lower leg is generally effected at a greater mechanical advantage, and therefore by a less force, than the combined rotation on its transverse and longitudinal axis by means of the upper leg, while it is sufficient to produce an elevation of the shoulder unless the fœtus is dead and flaccid, or the uterine rigidity extreme, and the upper leg may, with no diminished advantage, be afterwards brought down if required.

(2.) If the lower leg be taken, and a noose placed upon the prolapsed arm, the operator has complete command of the anterior arm in the subsequent extraction.

(3.) By taking the lower leg the more usual dorso-anterior is not converted by the version into a dorso-posterior position, a point of minor importance, but one which may, in some cases, be worthy of consideration.

Is Syphilis communicable through the Milk? — With a view of obtaining facts bearing on this important question Dr. R. Voss [1] inoculated three prostitutes with the milk expressed from the breast of a syphilitic woman. The first was herself syphilitic, and the result, as was anticipated, was negative. The second was suffering from an attack of urethritis, and no effect followed the experiment. The third was a young girl, sixteen years of age, who had never had syphilis. She entered the hospital September 16th with urethritis. The milk was injected subcutaneously on the 27th. The immediate result was the formation of an inflammatory swelling, which soon became an abscess, and which was healed October 24th. On the 3d of November (forty days after the injection) a papular eruption appeared around the point of the injection, and five days later a maculo-papular syphilide appeared on other portions of the body in addition to an adenitis. The patient was at once treated with mercurial inunctions, and all of the syphilitic symptoms rapidly disappeared. From this Dr. Voss considers that there can be no question but that syphilis can be communicated by the milk as well as by the blood.

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[1] Petersburg med. Wochenschr., 23, 1876. New York Medical Journal, February, 1878.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

JANUARY 13, 1877. *Very Painful First Stage of Labor; Overdose of Chloral; Convulsions; Forceps; Death of Baby on the Fourth Day; Peritonitis; Recovery; Strain of Sacro-Iliac Joints.* — DR. STEDMAN reported the case.

In the autumn of 1873 I delivered Mrs. A B C, a healthy, dark-complexioned American woman, by craniotomy. A year after, a live boy was extracted by means of the long forceps. Having been engaged to attend her in her next confinement, I was sent for on the 22d of November last. and saw her at noon. She had been suffering considerably during her pregnancy, chiefly from abdominal pain and difficult locomotion, which last had never wholly left her since her first childbed, when I judged that there was separation of the pubic articulation during her very severe labor. At noon of the 22d she reported hard pains during the night, increasing up to the time of my visit, and it was noticed that the pulse was quickened. Digital examination discovered the cervix uteri to be three fourths of an inch long, and the os dilated enough to admit the end of the finger. It seemed as if she had not gone her full time, but she declared it was at least two days over. There was vomiting, but no show, no feeling of distended membranes; the contractions of the uterus could be felt through the abdominal walls; pains were severe; the head presented. An opiate was left, and at three o'clock she was seen again. There was no change, except that the pains had grown exceedingly violent, as if the head were passing the perinæum. She was ordered some food, half an hour after which she was to have fifteen grains of chloral every twenty minutes for an hour, and to call me if there were any change. At eight o'clock a breathless messenger tore into my house with a summons to come at once if I desired to see Mrs. A B C alive, as she had had a fit and was breathing her last. On reaching the house it was found that instead of getting forty-five grains of chloral in an hour she had had ninety. I was reassured on observing that her symptoms were the reverse of narcotic, those due to the chloral being a sense of numbness and undue size of her head, the strangeness of which feelings had brought on a hysteric fit. Not knowing quite what the chloral might be doing, a full mustard emetic was sent in quest of it; nothing was ever afterwards heard of the chloral or the mustard, and the vomiting which had pursued her for the past day or two stopped. There was no alteration of the os, though the pains were severe; it was not till midnight (six hours after the large dose of chloral) that the os uteri, which had been firm but not rigid, and could be encouraged by the insertion of a finger, began to open. At one o'clock the membranes were felt to be tense, and ruptured themselves during a pain, after which the os was lubricated and expanded. The presentation was right occipito-posterior. Ether was now given, having been withheld up to this time by my experience of its power in hindering this patient's former labors, enforced by knowledge of the ninety grains of chloral in her system

As soon as she came under the effects of ether the pains were less frequent and effective, while the head, which now lay transversely, did not advance in proportion to the uterine contractions. I tried to apply the straight forceps over the child's ears, but could not fit the forward blade under the pubes, so the long forceps was put on by the pelvic curve. Decided traction was made, and after a few efforts the right blade swept upwards under the pubes, by natural rotation of the head, and threatened to cut into the urethra. The instrument was therefore withdrawn, refitted to the sides of the fœtal head (now corresponding to the sides of the mother's pelvis), and delivery was completed, five hours after the waters escaped and eighteen hours after labor began. The uterus contracted well, the placenta was expelled in a few moments, and the pulse was good. The marks on the baby's head showed where the forceps had clipped it, — first over the brow and occiput, and the second time embracing the ears; the head was round, of remarkably good shape, and to appearance not damaged. But the infant did not do well; it vomited changed blood the next day, and did not feed; when two days old it had repeated tonic convulsions, the face drawn to the left, and died on the fourth day. On the fifth day Mrs. A B C, who had been persecuted by severe after-pains, now lessening under quinine, was attacked by a prodigious chill, followed by severe abdominal pain and swelling, with fœtid lochia. Pulse 125. Temperature 103°+. On the sixth day she had convulsions, some of which I saw, with purple face and tonic spasm, following paroxysms of pain, which came oftener and severer, with vomiting; knees drawn up, and pulse 130. On the seventh day her face was pinched, eyes fixed, pupils contracted. There was constant vomiting, a very tender and swollen abdomen, retention of urine, suppression of milk and lochia. Digital examination betrayed no local lesion, except a hot and tender vagina and cervix. The convulsions, which continued, were not supposed to be eclamptic, but she was said once to have bitten her tongue. She was hardly expected to live, but on the eighth day there was a remission of symptoms. On the ninth the pulse ascended. On the tenth she appeared convalescent; the belly had subsided, there was some show, the tongue cleaned, the pain, though not subdued, was less frequent. This improvement continued a day or two, when straining to pass a motion (contrary to orders) brought a renewal of pain and fever. This was mastered in two or three days. Sitting up caused pain down the thighs, in the left iliac region, and aching of the top of the head. Digital examination revealed no uterine or pelvic lesion, but ten weeks after labor she was in bed with tenderness of the pubic and sacro-iliac junctions.

The treatment of the peritonitis was by aconite and quinine, with full opiates, the catheter, washing out of the vagina with carbolic acid lotion, and all the support of food and stimulus that could be borne. The treatment of the strained pelvic joints was by a tight belt and rest.

The natural rotation of the head under traction would hardly have attracted notice had not instructions been given by authorities to produce this movement by means of the instrument. The reader had never followed such rules, having always found that the head took its own turns if any were needed. The best example of rotation he had ever observed was in the case of a stout multipara where he expected long delay, in whom the fœtal head was found in a right occipito-posterior position. While the finger rested upon the anterior fontanelle a strong pain occurred, and the head made a quarter of a turn; a succeeding pain completed the rotation to an anterior position, and the child was born by the natural efforts.

DR. FIFIELD asked Dr. Stedman what his experience had been with quinine for after-pains.

DR. STEDMAN replied that five grains given every three hours had had a good effect in this case.

DR. BIXBY asked if the uterus should not have been washed out as soon as it had become offensive.

DR. STEDMAN said it would have been the proper thing to do. As it was, the vagina was kept in good order by the nurse, and there was very little odor after the first washing. He had no notes of the condition of the urine in this case, but the result of the examination was negative. He had seen of late so many cases in which both albumen and casts had occurred without causing any unfavorable symptoms, during or after labor, that he was ceasing to regard it with the apprehension he used to feel.

Vesical Calculi; Autopsy.— DR. BIXBY read the case.

I was requested by Dr. H. I. Bowditch to see Mrs. W., suffering from some derangement of the urinary organs. The patient, of medium stature, sallow and emaciated, wore an expression of countenance markedly suggestive of prolonged suffering. She was fifty years of age, a native of Maryland. Death of maternal grandmother from vesical calculus, both parents from phthisis, a maternal uncle from calculus, and a sister suffering from the same affection indicated most unfavorable hereditary tendencies. Menstruation appeared at the eleventh year, and was regular but scanty. She was married at twenty, gave birth ten months later, miscarried once since, and became a widow in her thirty-ninth year. Near the climacteric, which was reached at forty-five, she commenced to suffer from dysuria and occasionally from incontinence. These symptoms increased in severity, became more frequent, and were later accompanied with hæmaturia and discharge of earthy matter. On this occasion her condition was miserable in the extreme. The incontinence had been uninterrupted for more than eighteen months, attended with pain and general discomfort. This condition of affairs, necessitating close confinement to apartments the atmosphere of which was constantly charged with decomposing urine, had made a marked impression upon her general health. The pectoral organs were pronounced healthy by Dr. Bowditch. By vaginal exploration, at a point corresponding with the neck of the bladder, the movements of the finger were arrested by a decided prominence that on the gentlest manipulation imparted a peculiar crepitant sensation. The passage of a probe into the urethra was obstructed by a firm, unyielding body situated quite within the lower portion of the urethra, at once recognized as a calculus. The diagnosis being confirmed by Dr. Bowditch, at six P. M. I introduced a medium-size seatangle tent, and left the patient for the night. The following morning, the dilatation being sufficient to admit without difficulty a small Charrière lithotomy forceps, with that instrument, in the presence of Dr. Bowditch, I pro-gland, as in a case that he had reported two years ago; or, what seemed more likely, the discharge of milk might be due to its entrance into the cavity of the abscess, owing to a lesion of one or more lacteal ducts by secondary ulceration, or by the use of the bistoury.

Dr. Wellington said that he had seen one case in which there was a bunch in the axilla, which was undoubtedly a lobe of the milk gland. It was first noticed by the patient about her eighteenth year. After her first confinement this lobe enlarged with the rest of the breast, but subsided in a week to its original size. At subsequent lactations it was not affected. It never entirely disappeared.

Uterine Polypus. — Dr. Minot showed a fibroid polypus which he had removed December 16th from a woman twenty-nine years old. The patient had been married five years, and was nursing her third child, which was fifteen months old, at the time of the operation. The labor was quite natural, and was followed by no hæmorrhage. Ten months afterwards, without known cause, she began to flow in large quantities at irregular intervals, though very frequently. Soon afterwards she noticed what she supposed to be falling of the womb. There was no pain. The tumor was wholly within the vagina, being connected with the interior of the womb, at the junction of the cervix with the body, by a pedicle one inch in thickness. It was drawn down by hooks, and the pedicle was severed with scissors. No hæmorrhage followed, and the patient did well. The tumor measured five inches in circumference, and weighed a little over an ounce and a half.

The interest of the case lay in the resemblance of the tumor to an inverted uterus, from which it was at first discriminated with some little difficulty, as the sound did not enter the uterus easily. But apart from the absence of any history of inverted uterus, exploration by means of a catheter in the bladder and the finger in the rectum established the diagnosis beyond a doubt.

ANNUAL MEETING OF THE NEW HAMPSHIRE MEDICAL SOCIETY.

The New Hampshire Medical Society held its eighty-seventh annual meeting in Concord the 18th and 19th of June, President L. M. Knight, M. D., of Franklin, in the chair. After the usual routine of business was transacted, thirty new members being admitted, papers were read, by the president upon Some of the Duties of the Profession and the Society, and by Dr. E. E. Graves, of Boscawen, On Risks and Responsibilities in the Practice of Medicine and Surgery, giving a brief outline of some of the points where the law in New Hampshire and in other States bears unjustly upon the profession, fully illustrating his position by decisions from distinguished jurists.

Dr. J. P. Bancroft, of the New Hampshire Asylum for the Insane, read an able paper upon the condition of the pauper insane in the State, which was referred through a committee to the governor and council, and an abstract of which was brought to the notice of the legislature, now in session, in a special message from Governor Prescott.

Dr. William Child, of Bath, made an interesting report on surgery, of which a mere notice would fail to do his paper justice, as it was decidedly original in thought and in application.

Dr. Pray, of Dover, read an excellent paper upon the modern use of stimulants, involving the question, Has the type of disease changed? The subject was elaborated with the opinions of many of our best physicians, and Dr. Pray's conclusion was that stimulation had become a hobby with a good many.

Other papers were read and discussed, and the reports all went to show that the society never was in a more flourishing condition or doing more for the public good than at present.

A number of delegates were present from other States, Massachusetts being ably represented by Dr. Ira Russell of Winchendon, Dr. J. H. Mackie of New Bedford, and Dr. Edward Wigglesworth of Boston, while Dr. L. J. Bulkley and Dr. H. T. Hanks appeared for the state society of New York. Vermont was represented by Dr. D. F. Rugg, of Hartland, and Dr. L. Sawyer, of Springfield. In this connection I would mention that Dr. Bulkley favored the society with a paper on the use of india-rubber bandages in the treatment of eczema and chronic ulcers, and by applying the bandages to different patients illustrated his subject much to the satisfaction of the Fellows. Dr. Bulkley recommends a bandage of lighter india-rubber than that used by Dr. Martin, of Boston.

The following officers were elected for the ensuing year: President, A. F. Carr, M. D., Goffstown; vice-president, T. J. W. Pray, M. D., Dover; secretary, G. P. Conn, M. D., Concord; treasurer, L. B. How, M. D., Manchester; executive committee on papers, etc., Drs. P. A. Stackpole, Dover, J. W. Parsons, Portsmouth, and A. H. Crosby, Concord.

The semi-annual meeting will be held in September at the Isles of Shoals, to which all the physicians in New England, with their wives, will be made welcome.

The New Hampshire society, like the Massachusetts association, ignores the "'pathies," firmly believing that the true physician never should be trammeled by any exclusive system, or one based upon a single idea. ⁂

MEDICAL WITNESSES AND THE POWER OF A SUBPŒNA.

Those of our readers who have been peremptorily summoned to court to testify in a case with which they have had nothing to do may appreciate the following remarks made by an English contemporary in reviewing an article by F. T. Ledergerber in the St. Louis *Medical Journal*: —

" Any man who has attained a reputation for knowledge in any branch of medicine or science may be summoned to give evidence as an expert, although he may know nothing of the facts of the case, or he may not have been previously consulted. No litigant, however, would act upon this rule unless he knew from the published or expressed opinions of the expert that his testimony would be favorable to his case. By permission of the court he may be treated as a hostile witness, and cross-examined by the counsel who summons him.

"The late Lord Campbell ruled that an expert who can give only evidence of *opinion* should not be subpœnaed, and was not bound to obey a subpœna. If, however, he can testify to any *fact* in the case, he must obey the legal mandate. The safe course for an expert is, however, to obey a subpœna under all circumstances. Then arises the question of fees. Mr. Ledergerber remarks that the German and French courts award to all experts suitable compensation. This is not the case in England and the United States. Unless an arrangement be made on receiving the subpœna there is usually great difficulty in procuring reasonable compensation, especially in criminal cases. On these occasions an expert who can testify to *facts* must obey a subpœna, be sworn, and give the necessary evidence. If, however, he have been summoned only for evidence of *opinion*, he may decline to be sworn or to give this evidence until he has received his proper fees, or a guarantee for their payment; and, as a rule, our courts will uphold this conduct on his part. It would seem that the practice in the American courts is similar. Thus, Mr. Ledergerber tells us that Dr. Dills and Dr. Buchanan, of Fort Wayne, Indiana, were on one occasion fined for refusing to give their professional *opinion* in a criminal case, in Allen County, without having been first paid or promised due compensation. They appealed, and the supreme court sustained their objection, and reversed the decision of the lower courts. It would, indeed, be a gross piece of injustice to force men eminent in any department of medicine or science to give their professional opinions without receiving proper compensation."

MEDICAL NOTES.

— We would again [1] call the attention of our readers to the treatment of sunstroke, or thermic fever, as it has been called by Dr. Wood. The antipyretic action of the cold bath and quinine makes the seremedies exceedingly efficacious. The quinine should be given subcutaneously, as rapidity of action is necessary. One drop of dilute sulphuric acid and ten minims of water are necessary for the solution of one grain of quinine; the ordinary subcutaneous syringe could thus hold three grains.

— The announcement of the Boylston Medical Prize committee for this year shows that no prize was awarded. The questions were: —

(1.) Antiseptic Treatment: What are its Essential Details? How are they best carried out in practical form?

(2.) Diphtheria: Its Causes, Diagnosis, and Treatment.

These are offered again for competition in 1880. The questions for 1879 are: —

(1.) Are Epidemics and so-called Contagious Diseases necessarily dependent upon Material Agencies, acting through the Stomach or otherwise?

(2.) Athletic Sports, Training, Violent Exercises, etc., as now practiced by Young Men: Their Temporary or Permanent Influence upon the Health.

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[1] See JOURNAL, July 20 and August 3, 1876; August 30, 1877, page 251.

The committee on publications are authorized to offer the sum of *two hundred dollars* as a prize, or honorarium, to any one Fellow of the society who shall give to the satisfaction of said committee, on or before the 15th of April next, in an essay or report (worthy of a prize), the best and fullest evidence of any original or meritorious *professional work*, done by himself during the two years next preceding said date, in experimental investigations, scientific researches, or clinical observations.

Papers may be sent to Dr. George C. Shattuck, 6 Newbury Street, Boston, on or before April 15, 1879, with motto and name, as usual in such cases.

— Several cases have been recorded of mortification of stumps following the use of Esmarch's bandage in amputation.

— *The Doctor* (June 1st) speaks warmly of the medical post-graduate course of Harvard University, and recommends the same to the notice of the English universities.

THE CLIMATE OF GEORGIA.

Mr. Editor, — It may interest the valetudinary and gentlemen of leisure, living under the cold skies and pierced by the sharp winds of our New England sea-board, to know that there lies almost at arms-length, within the compass of a few short hours' travel, a sanitarium of whose climate and flora no words, or any array of facts and figures, can convey an accurate idea, — a sanitarium little known, and by consequence unappreciated, but far surpassing in all essential requisites those usually sought by our countrymen in Europe.

The State of Georgia covers four and one half degrees of latitude, reaching from the thirty-fifth parallel nearly to the tropics. Its greatest length is of course from south to north, the altitude increasing with the latitude, and thus supplying all the conditions of variety in climate and productions. At the south, rice, cane, and cotton are field crops, and among the tropical fruits the orange and banana are just reached. As we go higher into Middle Georgia cotton is the leading "money" crop, supplemented by corn, wheat, oats, etc., the oats being unsurpassed in nutritive value. Of vegetables the variety is almost unbounded. Of fruits there are figs, pomegranates, grapes, muscadines, apricots, melons, quinces, plums, apples in all parts of the State except near the coast, the usual wild fruits being abundant, and among them the well-known luscious scuppernong grape, the wine of which is justly praised.

But I wish to call attention more particularly to the climate of Middle Georgia, and its wonderful adaptation to the needs of those who for health or pleasure seek a milder and more temperate clime than that of our northern latitudes.

The three great points of interest in climate are the temperature, the rainfall, and the winds. Dr. Janes, speaking for the State, says: —

" For the year round the climate is fine. It is fine for out-door work or in-treated as a hostile witness, and cross-examined by the counsel who summons him.

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" For the year round the climate is fine. It is fine for out-door work or in-door work, for winter or summer crops. On the temperature map the mean annual temperature below a line joining Augusta on the eastern border and Columbus on the western border would be between 68° F. and 64° F.: between the same line and a line running nearly parallel to it on the north, passing twenty miles below Atlanta, from 64° F. to 60° F.; on still another parallel, further north and including Atlanta, between 60° F. and 56° F.; Upper Georgia betwixt 56° F. and 52° F. The entire range of mean temperature, not including the mountains, is therefore about 16° F."

The winter climate of Middle Georgia is particularly delightful on the high pine lands. The air is balmy, dry, and healing, the winds seldom high and never piercing or chilly, the rainfall very light. Snow seldom falls. In 1870 it fell upon two days; in the winter of 1871–72, nine days; 1873, one day; 1874, no snow; 1875, no snow; 1876, no snow; 1877, no snow. The thermometer rarely falls below 30° Fahrenheit. Light frosts are, however, frequent in December and January, and give a bracing character to the atmosphere, the want of which is generally so much felt by Northern invalids. The soil is sandy, and quickly absorbs all moisture. Life out-of-doors is practicable, comfortable, and delightful the entire winter. In my own family the children have not been detained in the house by reason of the weather but four or five days from December 20th to this date. The evenings are free from dampness or malaria on the high lands, and the verandas are in use during the whole year. It is a great mistake to suppose that malaria in our Southern States cannot be avoided. On the low lands in summer and autumn it is omnipresent, and those who are obliged to work or live upon them absorb it in the blood and seldom get rid of it. Its effects are more uncomfortable and fatal in the season of decaying vegetation, but being retained in the system of those who have been exposed it makes its appearance at any season if there be an exciting cause, such as a sudden cold, etc. But the Northerner who has never been exposed to a malarious atmosphere can live anywhere in the South in the season of frosts without fear; but of course being free to choose he would naturally select his habitation on the higher lands in a drier atmosphere. The residences of those who are able are generally placed in such positions, and where malaria is unknown. My own dwelling is situated about ten miles from the city of Augusta, on the high pine lands forming the basin of the Savannah River. These sandy hills inclose and follow its course for miles on either side at varying distances. In prehistoric times, undoubtedly, the waters of the Savannah washed their feet. Here, far above the dampness and malaria, are innumerable building sites commanding beautiful and extensive views in a climate unsurpassed, and in a country where building, living, and wages are as cheap if not cheaper than in any other part of our country. There are Northern men here now who have been farming these lands, swamp and upland, for years who have never had a case of malarial disease in their families. Diphtheria, the scourge of our Northern cities, is very rare out of the large centres of population, while in Massachusetts it seems to afflict town and country alike. The winter climate is of course much warmer and the summer range of the thermometer lower than at the North, the difference in length of days increasing the summer range in the more northern latitudes. "At New York, in midsummer, the days are very nearly one hour longer than at Savannah, at Quebec one hour and a half longer, and the nights correspondingly shorter; in consequence there is at New York one hour longer for heat to collect from the direct rays of the sun, and one hour less in the night for the accumulated heat to be carried off by radiation."

"The *distribution* of heat is, however, more important than the mean annual temperature. The latter may be very moderate and promising, but characterized by excessive heat in summer and excessive cold in winter; but these diversities are not observed in Georgia. The extreme range is nearer to the mean than in more northern climates, and sudden rises or falls of temperature are very rare. The extreme heat which causes sunstrokes seldom occurs, and they are very rare."

The village of Summerville, three miles from Augusta, is situated on one of these sand hills, and has acquired a reputation outside of the State for its salubrity and healthfulness. A gentleman with a large family of young children informs me that he has resided there five years, and has never had occasion for the services of a physician. In fact, his services are very seldom required, excepting by those non-residents who bring their diseases with them. The village is chiefly composed of the houses of gentlemen, and the society is cultivated and attractive. The beautiful grounds and finely-kept buildings of the United States Arsenal occupy one of the finest sites, and command an extensive view, including the city of Augusta far below, the valley of the Savannah, and the high lands of South Carolina.

On the summit of one of these South Carolina hills is Aiken, twenty miles distant, and one of the best-known resorts in the South; it is high and dry, but in December and January bleak and windy, and those invalids who have tried both Aiken and the high lands about Augusta, including Summerville, much prefer the latter, particularly in the months named. It is not my intention to write an advertisement of the environs of Augusta or of Summerville, but I mention them especially because they are more familiar to me; there are hundreds of places in Middle Georgia undoubtedly equally salubrious. The city of Augusta itself, while generally very healthy, is in a swamp, and the evenings and nights are too damp to be comfortable or healthful for invalids seeking a dry and bracing air. That your readers may have an opportunity of comparison I will give my own observations of the thermometer and weather here on the pine lands, ten miles from Augusta, and those of the signal service in Boston for that city in the months of January to April inclusive: —

JANUARY.

Woodside. —	Daily mean	48°	Boston. —	Daily mean	28°
	Highest	71°		Highest	54°
	Lowest	24°		Lowest	6°
	Fair or clear days	23		Days on which rain or snow fell	17
	Cloudy	3			
	Rainy	5			
	Average daily range	10°			

FEBRUARY.

Woodside. —	Daily mean	51°	Boston. —	Daily mean	31°
	Highest	71°		Highest	56°
	Lowest	32°		Lowest	4°
	Fair or clear days	20		Days on which rain or snow fell	13
	Rainy	5			
	Cloudy	3			
	Average daily range	10°			

MARCH.

Woodside. — Daily mean	73.5°	Boston. — Daily mean	39.5°
Highest	84°	Highest	71°
Lowest	42°	Lowest	10°
Fair or clear days	25	Days on which rain or snow fell	16
Rainy	2		
Cloudy	4		
Average daily range	12°		

APRIL.

Woodside. — Daily mean	69.5°	Boston. — Daily mean	47.2°
Highest	88°	Highest	77°
Lowest	56°	Lowest	34°
Fair or clear days	24	Days on which rain or snow fell	21
Rainy	4		
Cloudy	2		
Average daily range	7.2°		

To sum up: Of the one hundred and twenty days at Woodside, ninety-two have been fair or clear, twelve have been cloudy, sixteen have been rainy. In Boston snow or rain has fallen on sixty-seven.

I know of no European climate, from personal observation, at all comparable to this. Cannes, Nice, Mentone, and San Remo on the Mediterranean are subject to cold, piercing winds blowing from the Maritime Alps. The sun burns, but the shade and the winds chill. The sudden change at sunset is critical and dangerous, as is the change in midday from the glare of the sun to the damp and narrow streets where its rays never enter. The damp stone houses drive their foreign occupants into the streets for comfort, until it has become an Italian proverb that " Englishmen and dogs walk in the sun."

The climate of Florence is very similar. Rome is not often visited by chilly winds, but its climate in the winter months is frequently damp, disagreeable, and infected by malaria. Naples on the high lands is more healthy and bracing, but in the lower parts of the city, where the drains enter the sea, is malarious. It is also subject in the winter months to long, cold storms and sudden changes of temperature. Of Pau I know nothing personally, but members of my family who have spent the winter there describe the climate as humid and enervating. The climates of Algeria and Egypt are probably in some respects better than those of Southern France or Italy, but are rather difficult of approach to a majority of travelers. Of the foreign climates I have known my own preference is for that of Nice. The city is badly drained, many of the drains and sewers being open, but the frequent and sudden changes in the wind and the dryness of the air seem to carry off and absorb the miasmata, although the process is by no means agreeable to the nerves or the eye. In conclusion, a climate can be known only by *personal experience*, and not by any record of the barometer or thermometer, as the other conditions are so varying; and I respectfully suggest to our Northern physicians a trial of this of Middle Georgia, as being more accessible, and in all the details more perfect, than any European climate in which it has been my fortune to reside.

I am indebted for some of the facts given above to the excellent little work of Dr. Janes, commissioner of agriculture of the State of Georgia, entitled, Hand-Book of the State of Georgia, and cordially recommend it to any one desiring a more definite knowledge of the State's great peculiarities and resources.

G. R. S.

WOODSIDE, RICHMOND CO., GEORGIA, *May* 11, 1878.

SHORT COMMUNICATIONS.

HEAT-STROKE; TREATMENT BY COLD SPONGING.

BY S. L. ABBOT, M. D.

At this season of intense heat I have thought that the following memoranda of a severe case of heat-stroke might not be without interest to the readers of the Journal.

I was called on the evening of the 2d inst., an extremely hot day, to a servant at one of the large hotels in this city. She was eighteen years of age, and had but recently arrived from Ireland. She had been at work in the hotel but a week, her occupation being in the kitchen, in the lowest part of the house, where the temperature was very high. Since morning she had complained much of being unwell; had eaten little, but had drunk large quantities of ice-water, with ginger. At six P. M. she climbed to her bedroom in the attic, exclaimed that she felt very badly, sank down exhausted into a chair, and gradually lost consciousness. When I first saw her, at eight P. M., she was breathing thirty times in a minute, each expiration being a groan, with gurgling of fluid in her throat; her face was intensely red, and her skin dry and extremely hot. A little brandy had been given her, which she had vomited. The pulse was 160, of moderate strength, and the temperature in the axilla was 109.2° F. Menstruation had commenced in the morning, and there was still a trace of it. The temperature was again tested in a few minutes with the same result.

The patient was taken to one of the airiest rooms in the house, and treatment by cold sponging was at once commenced. A rubber sheet was spread on the bed, and the patient was entirely divested of clothing. Blocks of ice were applied to the head, and the whole body and limbs were assiduously sponged with ice-water from the vessel holding the supply of ice for the head. Fanning was employed to accelerate evaporation, and as soon as the heat returned to the chilled surface the application of ice-water was renewed.

Half an hour after the treatment was commenced, at nine P. M., the temperature was 106.8° F.; respiration 44. There was convulsive twitching of the arms, a rapid thrusting out and drawing in of the tongue, with a quivering of the chin. The pulse could not be counted at the wrist on account of the twitching of the tendons. The pupils were contracted to the smallest point. The treatment was continued.

9.30 P. M. Temperature 103.3° F.; respiration 44; pulse 152. Pupils dilated, not contracting under the stimulus of light. Every breath a groan. Vomits profusely.

10.15 P. M. Has had a general convulsion, with vomiting of brownish fluid and a profuse liquid evacuation. Pulse 140, weak; respiration 36; temperature 102.2° F. Convulsive twitching of arms continues. Gave subcutaneous injection of twenty minims of brandy. The swabbing with ice-water was continued.

10.45 P. M. Temperature 102.4° F.; respiration 33. Gave thirty minims of brandy subcutaneously, and five minutes after the pulse was 135, regular, but weak.

11.05 P. M. Patient much more quiet. Groans very little. Gave subcutaneous injection of an eighth of a grain of sulphate of morphia. Treatment relaxed a little.

11.20 P. M. Temperature 103.2° F.; respiration 28; pulse 120. Has vomited a little mucus. Sleeping quietly.

11.40 P. M. Injected one sixth of a grain of sulphate of morphia.

11.45 P. M. Temperature 103.2° F.; respiration 24; sleeping.

12.20 A. M. Still asleep. Respiration 22.

12.40 A. M. Awoke with violent retching, vomiting of a little mucus, and had convulsive movements of arms. She soon became quiet and slept most of the time until six A. M of the 3d, at which time the temperature was 102.6° F., the pulse 96, and the respiration 18. She was still unconscious. At 10.30 in the same condition, but had had no spasm. Temperature 102.4° F.; pulse 90; respiration 16. Ice-water treatment to be continued *pro re natâ*. At 5.45 P. M. still sleeping. Cannot be roused, but resists effort to separate eyelids. Pupils contracted. Temperature 103.8° F.; pulse 111; respiration 24. Has had no vomiting or purging. Resume active bathing. 6.30 P. M. Temperature 103° F.; pulse 90; respiration 20. Injected six grains of sulphate of quinine subcutaneously. At 9.30 the temperature was 102.3° F.; pulse 84; respiration 18. Has not swallowed liquids offered to her, but has drawn up the sheet about her.

July 4th, 9.30 A. M. Slept well, opening her eyes at times, and speaking, but not knowing people about her. Now smiles and speaks, and seems to recognize her friends. Temperature 101.6° F.; pulse 76; respiration 16. Has drank greedily a third of a tumbler of milk, but vomited it at once, mixed with bile. Says she has no headache. Catamenia returned in the night, and are now profuse.

July 5th. Convalescence progressing. The tongue has become clear, appetite is returning, but there is still some fever. During the night her mind wandered a little. There is a moderate cough, and there are sonorous râles in both chests. She is taking sulphate of cinchonidia, two grains every three hours. Her mind at present is quite clear. Has no pain. Says she is hungry. The pulse is 84, and the temperature 101.8° F., at eight P. M.

July 6th. Had a good night. Pulse 75; temperature 99.6° F. Makes no complaint but has little appetite. Mind dull, sluggish, but rational.

The point of special interest in this case, which seemed at first a perfectly desperate one, is the complete efficiency of applications of ice-water to the patient without removing her from the bed, showing that the luxury of a bath-tub is not necessary to the successful treatment of even the worst cases.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending June 29, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	554	26.35	23.42	28.71
Philadelphia.	876,118	321	19.05	18.80	21.54
Brooklyn.	549,438	232	21.96	21.51	25.50
Chicago.	460,000	102	11.53	17.83	22.39
Boston.	375,476	136	18.83	20.10	24.34
Providence.	100,000	31	16.12	18.81	19.20
Lowell.	55,798	17	15.84	19.09	22.50
Worcester.	54,937	17	16.09	14.07	22.30
Cambridge.	53,547	12	11.65	18.69	20.83
Fall River.	53,207	14	13.69	21.35	24.96
Lynn.	35,528	12	17.57	20.42	19.67
Springfield.	33,981	7	10.72	16.02	19.77
Salem.	27,140	10	19.16	20.38	21.15

Gynæcological Society of Boston. — The next regular meeting of the society will be held at the Evans House, second Thursday of July, at three o'clock, P. M.

Paper expected from J. G. Pinkham, M. D., of Lynn: A Case of Hysterical Labor.

Profession cordially invited at 3.30 o'clock. Henry M. Field, M. D., *Secretary.*

Appointment. — Dr. George M. Garland has been appointed professor of thoracic diseases in the medical department of the University of Vermont.

Books and Pamphlets Received. — The Value of Electrolysis in the Treatment of Ovarian Tumors. By Paul F. Mundé, M. D., New York. (Gynæcological Transactions.) 1878.

The Atlantic Islands as Resorts of Health and Pleasure. By S. G. W. Benjamin. New York: Harper and Brothers. (For sale by A. Williams & Co.)

Fowne's Manual of Chemistry. From the twelfth English edition. Philadelphia: Henry C. Lea. (For sale by A. Williams & Co.)

A Case of Vaginal Ovariotomy. By William Goodell, A. M., M. D., Philadelphia. (Reprint from Volume II. Gynæcological Transactions, 1878.) Houghton, Osgood & Co.

How to take Care of our Eyes. By Henry C. Angell, M. D. Boston: Roberts Brothers. 1878.

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THE CAUSATION OF TYPHOID FEVER.[1]

BY GEORGE E. WARING, JR., NEWPORT, R. I.

THE long-continued and somewhat thorough investigations of the ultimate methods of the causation of this disease have failed of a scientifically accurate result. The question whether typhoid fever always springs from the presence of specific poison produced by a parent case of the disease, or whether it may, under certain circumstances, arise *de novo*, is still in doubt. It is hardly worth while, in a paper prepared for the use of medical practitioners, to restate the facts and observations which support one or the other of these theories; this would lead only to the inconclusive result which has always thus far attended the discussion.

By far the majority seem to sustain the opinion of Dr. Budd and his followers, that the disease can originate only from the presence of a specific poison produced by a previously existing case. It should be remembered, however, that as most physiological investigators have confined their observations to dense communities, where the disease has prevailed, their observations are more or less clouded by the probability that previous cases have had an influence upon those under consideration.

Although their number is far smaller, other investigators have devoted themselves entirely to very sparsely settled districts, whose isolated families have so little communication with the rest of the world and with each other that it is easy to determine the exact circumstances of contact. The occurrence of typhoid fever in a house standing miles away from all others, where it is rare that any member of the family goes from home, and where a visitor as rarely comes, furnishes strong presumptive evidence of the correctness of Dr. Murchison's theory of a possible *de novo* origin.

To show the testimony upon which opinions are based, we may cite the instances described in various reports of the Massachusetts State Board of Health. In that State the annual deaths from this disease are about one in one thousand, and it is estimated that one tenth of the cases are fatal; so that about one per cent. of the population are attacked by the disease. There, as elsewhere, typhoid is peculiarly a disease of the country rather than of the town. The observations of ten years show that among a population of 1,044,294 persons, living in large towns, the typhoid death-rate was 0.755; and that among a population of 213,468 persons, living in small towns, the rate was 1.189.

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[1] Prize Essay. 1878. Rhode Island Medical Society.

The case is reported of a house in Hadley, built by a clergyman, where a well existed in the cellar into which foul air from the sink drain had access. Vegetables were kept in the cellar; the windows were never taken out; there was no escape for the foul, damp air; and water stood in drops upon the ceiling and walls.

"After a few months' residence in the house the minister's wife died, of fever, so far as I can learn. He soon married again, and within one year of the death of the first wife the second died, from, as I understand, the same disease. The children were also sick. He lived in the house about two years. The next occupant was a man named B——. His wife was desperately sick. A physician then took the house. He married, and his wife died of the fever. Another physician was the next tenant, and he, within a few months, came near dying of erysipelas. All this while matters had remained as before described with reference to ventilation. A school-teacher then rented the house, and tore up the closed box, but did not cover the well. This was about eight years after building the house. The sickness and fatality were so marked that the property became unsalable. When last sold every sort of prediction was made with reference to the risks of occupancy, but, by a thorough attention to sanitary conditions, no such risks have been encountered."

The case of the Maplewood school, at Pittsfield, fully and thoroughly reported upon by Drs. Palmer, Ford, and Earle, is too well known to be detailed here. Of seventy-four resident pupils, sixty-six had illness of some sort; fifty-one had well-marked typhoid fever. Of the whole family of one hundred and twelve persons, fifty-six had typhoid fever, and sixteen of these died. The cellar was used for storing vegetables; the privy vault communicated with the main hall of the building; the kitchen drain discharged near by; the privy vaults were filled nearly to the surface; and, in the summer season, the house was pervaded by foul odors. The school was dismissed; the sanitary condition of the establishment was thoroughly improved, and the institution became and has remained free from the disease.

In a boys' school in Pittsfield the well stood under the wash-house, and was fouled by its leaking drain. Coinciding with this condition there was a serious outbreak of typhoid. The well being closed, and the water supply being taken from another source, the fever subsided. In another instance, men engaged in draining a meadow drank from a well supplied only from the water of the meadow, and were attacked under circumstances which seemed to connect the disease with the drinking of this water. In another an attack followed the drinking of water from a sluggish brook fouled by town sewage.

Evidence is given in these reports of outbreaks which were traceable to the tainting of an air-box, which supplied a furnace, by exhalation from the house drain; by the draining of a mill-pond which contained *no* sewage matters; and by the proximity of a stagnant ditch which had no obvious source of excrementitious fouling.

In Sutton an outbreak of typhoid coincided with the flow of barn-yard waste into a well three rods distant on the occasion of a sudden thaw.

The correspondent from the town of Oxford says: "So firm is my belief of this [referring to exhalations from foul drains, cellars, privies, and pig-sties] as a cause of typhoid fever that when I meet with a case of typhoid fever, not readily traceable to some of these causes, I infer that the truth has not been told me, or that my perceptive faculties have been at fault."

At Martha's Vineyard and in Newton there seems to be evidence that the prevalence of typhoid is effected by geological conditions, clay subsoil or underlying rock covered with rich soil favoring the disease. The very local character of most epidemics indicates defects of soil rather than of air. A physician in Pittsfield reports four cases and one death occurring among charcoal burners occupying two houses standing high up on the mountain side, and supplied with pure spring water. The first case had been exposed to no other than local agencies. The house was built into the hill-side, and on its upper side there was a foul pool of house-slops standing several feet higher than the level of the floor. This seemed to have caused the first attack of the disease, which subsequently extended to the other house, there being frequent communication between the two. The outbreak took place in August, when the windows overlooking this foul water were probably kept open. At Coltsville, slops were thrown out near the well, and a foul barn-yard pool stood near it. The condition of the well was the only traceable cause of the disease which followed. In another case the fever occurred after the use of water from a well near a barn-yard. Indeed, in all of the records of typhoid investigations, here and abroad, there appear innumerable instances where drinking-water wells were contaminated by infiltrations from manure heaps, swill, slops, cesspools, and privy vaults. In other cases, where there has been no conspicuous contamination of the drinking-water, outbreaks of the disease have coincided with the emptying of mill-ponds for the purpose of repairing the dams. Again, the infection of well-water by the infiltration of soap-suds in which the clothing of fever patients had been washed seems to have caused an outbreak.

One of the most striking examples of investigation of the ætiology of typhoid fever occurring in very sparsely settled districts is to be found in a paper by Dr. W. H. Bramblett, of Newberne, Va., published in the *Virginia Medical Monthly*, May, 1877, page 109. Dr. Bramblett practices along both sides of New River, which flows through a mountainous country broken into numerous valleys and gorges. There are no ponds or marshes whatever, and the elevation is from twenty-two hundred to twenty-five hundred feet above the sea. His investigations lead him to the belief that typhoid fever may originate without the least possible connection with a previous case. He cites seventeen cases, which had seven distinct starting-points, entirely unconnected with one another and with any other traceable source of contagium. The drinking-water seems to have been always pure, mountain-spring water; the privies appear to have been well placed with respect to the house; and, so far as can be gathered from Dr. Bramblett's report, there was an entire absence of all of the conditions which usually attend outbreaks of this disease. The description of symptoms indicates that the cases were all true typhoid fever. Among his conclusions Dr. Bramblett suggests the following: that "typhoid fever often originates spontaneously," or that "the contagium to which the disease owes its specific character originates *de novo*."

In estimating the value of this report it is to be considered that the reporter believes typhoid fever to be directly contagious, — a conclusion diametrically opposed to the recorded observations of those who have had experience in great fever hospitals.

While the voluminous records of investigation as to the origin of typhoid fever fail utterly to decide the question between those who do and those who do not believe that it can originate *de novo*, and while they have in doubt the question between "living germ" and "specific poison," — while, in other words, they leave the purely scientific problem still unsolved, — they are full of instruction as to the causation of the disease as we almost uniformly know it in practice. From the point of view of the medical practitioner, although much is still to be learned, we already know enough for the complete stamping out of typhoid fever as an epidemic. Sporadic cases may still occur, but if the physician knows what he may now learn, if he is energetic in the performance of his duty, and if he is sustained by private opinion and by public authority, he may, in every instance, prevent the extension of the disease to a second subject. Practically, so far as the health of the public is concerned, we may be said to possess already very nearly all the knowledge that we need.

There is no longer any dispute concerning the chief vehicles by which the specific contagium of typhoid fever is conveyed. These are the air that we breathe and the liquids that we drink. Perhaps we may narrow the question still more, and ascribe to the action of the air only the indirect conveyance of the contagium to the stomach; for there are indications that as the contagium of typhoid fever proceeds from disorders of the alimentary canal, so it is only the surfaces of the alimentary canal which are susceptible to its attack.

The poison of the air may be direct or indirect. That is, it may be due to the exhalations of decomposing matters in dung-heaps, pig-sties, privy vaults, cellars, cess-pools, drains, and sewers; or it may be due (according to Pettenkofer) to the development of the poison deep in the ground, and its escape in an active condition in ground exhalations. The water, milk, etc., which we drink may be contaminated by the absorption of foul odors from air with which they are in contact, or by the direct admixture of organic matters bearing the elements of infection. There is such a multitude of possible sources and channels by which the infection may be brought to us that it is often almost impossible, in first cases, to determine which has been actually in operation; but the original case being established, it becomes comparatively easy to trace the channel of its influence in the production of further cases.

It is with these well-known and clearly traceable agencies of development and communication, by which the initial causation is favored and the extension of the disease insured, that the practicing physician and the health officer have chiefly to do. If it is true that prevention is better than cure, then it should be the first care of the physician to insure the absence of all conditions which do or may favor the origin and spread of the disease.

Typhoid fever has in this connection an especial importance, not only as being a wide-spread scourge of almost unequaled magnitude, but as being the typical "pythogenic" disease. Its development and extension are due to conditions which equally promote the spread of diphtheria, diarrhœa, dysentery, cerebro-spinal meningitis, scarlet fever, and the long list of minor ailments which, without destroying life, make living almost worthless, — diseases which undermine happiness, sap the springs of energy, and overwhelm the patient with listlessness and *ennui.* It is the best known and the most widely spread of the long list of preventable diseases; and as the circumstances which favor the extension and aggravate the character of the whole of these are those which have the strongest influence over itself, so by removing the conditions which foster them we shall do much to restrict its contagion.

All the learning of the ages has taught us no better formula to express a perfect sanitary environment than the old one of Hippocrates: "Pure air, pure water, and a pure soil."

If we would turn typhoid from our doors, and literally stamp it out as an epidemic, we need only to insure this condition in its integrity. We may still import single cases from less cleanly neighborhoods, but it will be our fault if we permit it to attack even one of our own community.

Turning now to the practical bearings of the question, we may safely assume that typhoid fever is not conveyed by simple personal contact with the diseased body. According to Dr. Murchison, in the London Fever Hospital, where two thousand five hundred and six cases of typhoid fever were treated in fourteen and one half years, there occurred during the whole time only eight cases which originated in the hospital. Other instances are almost as striking, and in some cases the disease originated in isolated wards, such as small-pox wards, where personal contact was impossible, but where a conveyance of the infection by drains, air channels, etc., was clearly detected.

It may doubtless be assumed that the agency in the spreading of the disease from an original case exists entirely in the dejections from the bowels. Dr. Budd thinks that the surface of the bowels throws off the specific poison, as the surface of the skin throws off the poison of other diseases. The infecting material, whatever may be its character, is believed never to be active until it has undergone a certain development in connection with subsequent fermentation or decomposition of the dejections. Its vitality is very great, and seems little dependent upon circumstances other than the effect of a very high temperature. Dr. J. M. Lazzell, in the Transactions of the Medical Society of West Virginia for 1877, publishes a paper on the contagiousness of typhoid fever, in which he describes an outbreak in the family of one Thomas, which in time produced such terror that no nurse or washer-woman could be induced to come to the house. The bed linen and clothing, soiled with typhoid dejections, were boxed up and packed away. Three months after the disease had disappeared from the country, and when the general health was good, a girl came from six miles distant to do the house-work. Among other things she washed this boxed-up clothing. In ten or twelve days she was taken sick, and went home. Dr. Lazzell was called to her five days later, and recognized the same form of typhoid fever that had occurred in the Thomas family. Eleven members of her household were exposed, and eight of them took the disease. It did not attack a single person not so exposed.

The evidence is copious and conclusive that typhoid infection is transmitted often to a long distance, and after the lapse of considerable time, by running water to which the dejections have obtained access.

In Wicken Bonant the stools of a typhoid patient were thrown into a vault which stood near to the edge of a brook thirty-five yards above the parish well. The water-course carried the infection to the well. Forty-five cases occurred : five of them among one hundred and eighteen persons who did not drink water from the well, and the remaining forty among eighty-eight persons who had no other source of water supply. That is to say, of those who used the water from the parish well forty-six per cent. were attacked, and among those obtaining water from other sources less than three per cent. were attacked. This statement is taken from the twelfth report of the medical officer of the privy council of England.

I have previously cited the case of the outbreak at Over Darwen, in England, as follows: —

"There has recently been an investigation into the origin of an outbreak of "filth fever" in Over Darwen, England, the origin of which for a long time eluded the careful search of the authorities. It was finally worked out by a sanitary officer sent from London. The first case was an imported one, occurring in a house at a considerable distance from the town. The patient had contracted the disease, came home, and died with it. On first inquiry it was stated that the town derived its water supply from a distance, and that the water was brought by covered channels, and could not possibly have been polluted by the excreta from this case. Further examination showed that the drain of the closet into which the excreta of this patient were passed emptied itself through channels used for the irrigation of a neighboring field. The water-main of the town passed through this field, and, although special precautions had been taken to prevent any infiltration of sewage into the main, it was found that the concrete had sprung a leak and allowed the contents of the drain to be sucked freely into the water-pipe. The poison was regularly thrown down the drain, and as regularly passed into the water-main of the town. This outbreak had a ferocity that attracted universal attention; within a very short period two thousand and thirty-five people were attacked, and one hundred and four died."

(*To be concluded.*)

AN OUTBREAK OF DIPHTHERIA AND ERYSIPELAS IN A SMALL HOSPITAL.[1]

BY F. C. SHATTUCK, M. D.

The House of the Good Samaritan occupies two brick houses, formerly known as "Eaton's Folly," on the southwest corner of McLean and Chambers streets, has accommodation for twenty-seven patients, and has been in use now seventeen years as a hospital. A large, high ward in the third story, repapered, painted, and whitewashed two years ago, with two windows on McLean Street and a like number on Chambers Street, and in which a soft-coal fire is kept burning all day in an open stove, contains ten beds, most of which are for orthopædic cases under the care of Dr. Buckminster Brown. Neither pains nor expense are spared to insure good ventilation and pure air in all the wards, in every one of which, I may add, is an open fire of soft coal kept up almost constantly during the larger part of the year; and, if the senses are in any way competent to judge of the purity of air, that of the hospital is preëminently good and sweet.

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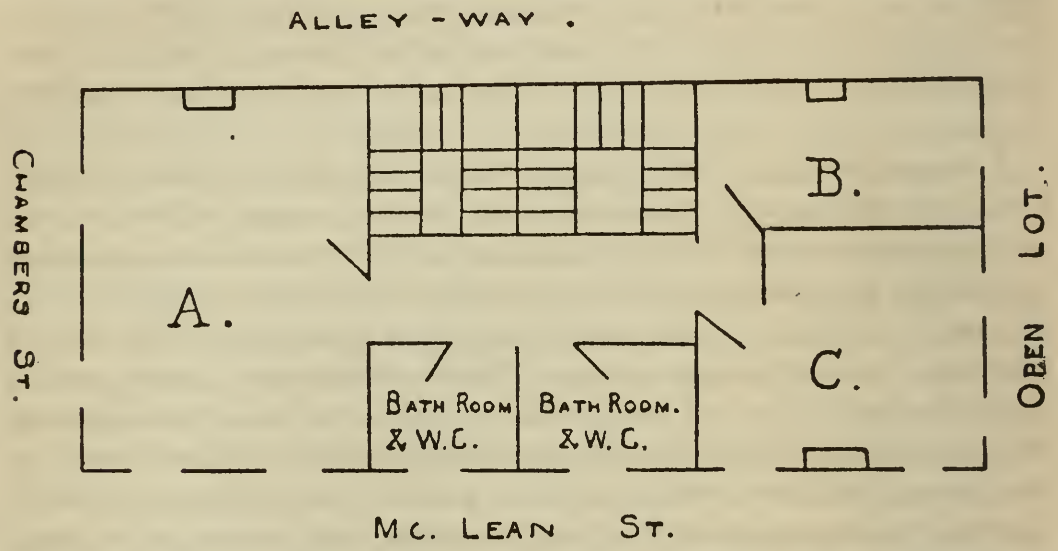
[1] Read before the Boston Society for Medical Observation in April.

On my visit on the morning of February 12, 1878, as it was thought he might not come that day, I was asked to look at one of Dr. Brown's patients, and found the child had passed a restless night, refused its breakfast, and complained of sore throat.



CASE I. John R., four years old, had been three months in hospital under treatment for hip disease, and was a miserable-looking, very scrofulous child. His skin was warmer than natural to the touch, his pulse was accelerated, the fauces were generally red and swollen, and there was a white patch the size of a split pea on the left tonsil. No enlargement of the glands in the neck, no vomiting, no eruption on the skin. I ordered chlorate of potash and ice, and reported that I considered it a case of simple sore throat, and that there was consequently no objection to admitting a child to fill a vacancy in the ward the same day. Dr. Brown, who had come in before I left the house, also examined the case, and agreed with me entirely as to its probable nature. The next morning I was informed that the child had been pretty comfortable, but on examining the throat found that the white patch was somewhat larger, though still confined to the left tonsil, and that when its edge was detached by gentle manipulation with the handle of the spoon a bleeding surface was laid bare beneath. The skin of the upper lip was somewhat irritated, and some yellowish froth appeared at the nostrils during the examination of the throat. During the two years that I was one of the dispensary district physicians, I may state in passing, my experience with diphtheria was fairly large, and I was led to attach considerable importance to this symptom of an acrid and thin purulent or purulent and sanguinolent discharge from the nostrils, in cases in which the condition of the throat alone did not seem to me to warrant a positive diagnosis of diphtheria. Such a discharge never occurs, as far as I know, in cases of catarrhal or of follicular angina, and does occur in a pretty large number of cases of diphtheria. It indicates, of course, merely the involvement of the posterior nares in the process.

Our case being clearly now one of diphtheria I advised sending it away, as the house has no proper facilities for isolation. Thanks to the kind promptitude of Dr. Cowles the child was taken to the City Hospital the same afternoon, but died there six days later from exhaustion.

A day or two after this the city Board of Health sent their best inspector at our request, and after a very thorough examination he pronounced the house-drains and soil-pipes in perfect order, and some ten days later the examination was repeated with a like result.

CASE II. February 17th I was asked to look at a little girl of five years, under treatment for caries of the dorsal spine, and three months in the hospital. She had had a restless night, vomited in the morning, and complained of her throat, which was found on examination to be swollen and inflamed, and to present a small white patch on one tonsil. Inasmuch as the atmosphere of the house was free from any contamination with sewer gases, I still entertained the hope that it might not prove necessary to incur the inconvenience and expense of breaking up the ward, and this case also was removed the same day to the City Hospital. We shall return to this child later. The bedsteads and mattresses occupied by these two children were each sent down into the yard as soon as the cases left the ward, and were exposed to the sun and wind for several days and nights, washed, and not returned to the ward. After the occurrence of the second case those of the children who were not confined to bed passed the whole day-time in another ward on the same floor which was occupied only by grown people, but slept in their own ward, and this was aired daily for an hour in the morning and another hour in the afternoon by opening all the windows wide and keeping up a blazing fire, the children who were in bed being carefully covered up. The weather was fortunately so favorable at the time that this could be carried out without undue exposure.

CASE III. A little girl of six years, with hip disease, was the child who was admitted with my sanction February 12th, the day of the appearance of the first symptoms in the first case. February 21st, four days after the outbreak of the disease in Case II., I was told that she had had a restless night and complained of her throat, but had not vomited, and had taken her breakfast much as usual. The throat was found on inspection to be moderately inflamed, but entirely free from false membranes. Temperature, A. M., 100.2° F.; P. M., 101° F. The previous history of the ward rendered it highly probable that this case also would prove to be one of diphtheria, but there was at that time absolutely nothing except the outward circumstances to distinguish it from the simplest case of common sore throat, and the circumstances attending the child's admission were such as to make it seem best to give it the benefit of the doubt and keep it under observation. The other children had been already as much exposed as this child, and the well-known fact was borne in mind that those who are exposed to such infectious diseases as scarlatina, diphtheria, and erysipelas sometimes become the subjects of sore throat, which, though it can in no way be distinguished anatomically from simple pharyngitis, seems to be connected in some way directly with the poison. The next day there was marked swelling under the angle of the jaw, especially on the right side; the swelling inside the throat had increased somewhat, and the right tonsil was the seat of a delicate vertical line of false membrane. Temperature, A. M., 99° F.; P. M., 102° F. A consultation with Dr. Brown could not be arranged on that day, but was held the next, — February 23d, — and it was then agreed that we should isolate the infected ward as much as possible, and shut up the three children who had been all along in bed, and consequently were more likely to contract or to spread the disease, with the case which had already broken out. It was arranged that these four children should have separate nurses; a sheet kept constantly moist with a solution of carbolic acid was hung over the outside of the door-way, and such other measures taken as would tend to prevent the spread of the disease to other parts of the house, and disinfect the air of the foul ward itself as far as possible. The patch of false membrane showed no increase in size, the temperature was lower, and the general condition of the child so good that no medicine was deemed necessary other than Wyeth's compressed tablets of chlorate of potash every two hours. During the next ten days the temperature ranged between 99° F. and 100.6° F., and by March 2d was normal both A. M. and P. M., while the throat was quite well except for slight redness and relaxation. No paralysis or other sequel of the disease has occurred.

CASES IV. and V. Of the three other children in the ward two suffered from mild sore throat with slight constitutional disturbance, but the third escaped altogether. The first began to complain March 2d, the second March 11th, and both recovered within a week from those dates respectively. Up to this date there has been no new case of diphtheria.

CASE VI. We must now return to Case II., sent, as will be remembered, to the City Hospital. The condition of the child was very critical for some days, but it finally pulled through, and March 14th was sent back to us, greatly debilitated, of course, from the severe attack which it had undergone and its previous constitutional affection. There was also some paralysis of the soft palate, as was evidenced by regurgitation of food through the nose; but this rapidly passed off. It was put into ward B, and two or three days later — the exact date has unfortunately not been preserved — presented decided redness and swelling of the right upper eyelid and slight injection of the conjunctiva, but without any apparent constitutional disturbance. The affection passed away in four or five days under very simple treatment, and was so trifling an affair that I attached no importance to it at the time, nor should I have thought of it again, or classed it as erysipelas, were it not for the light of subsequent events. The child died, March 30th, of congestion of the lungs, Dr. Brown tells me.

Case VII. March 18th one of the two children in the foul ward who had had only a mild sore throat was found to have redness and swelling of the right upper eyelid, very similar to that of the foregoing case. By the second or third day there was moderate purulent discharge from the conjunctiva, and the affection passed away within a week.

Case VIII. The ward marked B on the plan was at this time occupied by the child from the City Hospital and three women, and, having only one window, is the least desirable ward in the house. March 20th I found that one of the women, a widow of fifty-seven, but practically much older than that, the subject of chronic lung disease, with a history of hemiplegia, and nearly bedridden, had now very great swelling of the left upper eyelid, and moderate swelling and redness of the lower lid and integument as far as the lower border of the malar eminence. The lids were completely closed, and the upper lid greatly ecchymosed. The peripheral redness was not very marked, and the appearance of the part was strongly suggestive of a blow or fall. Her pulse and skin were natural; she had had no chill as far as could be ascertained, nor had she sustained any injury. The nurse stated that she had observed some slight redness about the eye the day before, but the patient's bed was in the corner of the room farthest removed from the window, and I had noticed nothing. There was no pain about the eye, but very severe neuralgic pains in the legs were complained of; and as no relief had been obtained from several doses of an anodyne I gave her a hypodermic injection of morph. sulph. gr. $\frac{1}{6}$, and atropiæ sulph. gr. $\frac{1}{60}$, which was followed by six hours of sound sleep.

March 21st. A pretty comfortable night. Vomited once early in the morning. Commencing blush about the right eye. All arrangements had been made for vacating and renovating the children's ward on this day, so this patient and the other two women were moved into ward C, to make room for the children. I will not detain the society with a detailed account of the further progress of the case. During the next few days a slough formed on the left upper eyelid, extending round the inner commissure of the lids, and pain and stiffness in the neck were complained of. On the 25th she had a sharp chill of fifteen minutes' duration, after which the temperature was 103.6°; swallowing became difficult, and finally impossible; stupor came on; swelling and redness of the right elbow and wrist, with pain on motion, were noted; and March 28th she died of exhaustion.

CASE IX. March 26th a woman with phthisis of four years' standing, who had occupied ward B, had a chill toward evening, and the next morning an erysipelatous blush on the tip of the nose. The same morning the other patients in the ward were provided for out of the house, the two cases of erysipelas alone being retained. The disease invaded the upper lip, the left cheek and ear, and the left side of the forehead. April 3d she passed out of my care into that of Dr. F. E. Oliver, who informs me that she is now well, and that no other case has appeared. There has been no trouble on the lower floors of the house.

To recapitulate, we have three cases of unquestionable diphtheria; two of sore throat, probably due to a mild dose of the poison; and four of erysipelas, all occurring in persons already debilitated by grave constitutional disease. Of the cases of diphtheria two were fatal, one directly, the other indirectly; of the cases of erysipelas, one was fatal.

As to the origin of this outbreak of zymotic disease, we remain entirely in the dark. Sewage can be pretty confidently excluded, two careful examinations at an interval of ten days having failed to reveal any leak. Did the disease come to the first case through the window, or was it brought to it by some visitor? No cases of diphtheria in the immediate neighborhood of the house were reported to the Board of Health between February 1st and April 1st, and it has been impossible to trace it to any visitor, — indeed, I believe that it is still an open question whether diphtheria can be carried by a third party.

To turn to the erysipelas. On inquiry, I find that while Case II. was at the City Hospital a severe case of erysipelas was in a small room on the same floor, but on the other side of a wide passage, and several doors farther along, though the nurses were the same. It was in this child that erysipelas first appeared on the scene, and that within two or three days of leaving the institution; the child was also put on its return to us into a ward (B) which had no obvious communication with the diphtheria ward, and which up to that time had been perfectly healthy, though it had been in use for a number of years for purely medical cases. The same paper had been on the walls for eight or nine years, but whitewash had been several times freely applied to the ceiling, and the painted woodwork frequently washed during that time. The third and fourth cases of erysipelas were in patients who also occupied this ward, but the second case was in the diphtheria ward, and followed the first within twenty-four to forty-eight hours. This fact inclines me to think that the means which were taken to isolate the diphtheria ward from the rest of the house failed in their object; or in other words, it seems more probable that of four cases of erysipelas, which followed one another in quick succession, all originated in the house; than that one was imported, giving rise to two others, and that the fourth (second in point of time) originated in the house almost simultaneously. Absolute isolation is attended with great practical difficulties under the most favorable circumstances, but is more difficult of attainment in a small hospital than in a large one, or than in a moderately convenient private house. In the former, special provision is made for a necessity which is frequently arising; and in the latter case, the members of the household who are well are more easily provided for elsewhere than are the inmates of a home for more or less chronic cases of disease.

The questions, What are the real nature and causation of diphtheria, scarlatina, erysipelas, typhoid fever, certain cases of pneumonia, etc.? and How far and in what way are they connected with one another? have been brought very prominently before the medical and general public of late years, and promise to remain prominent for some time to come. These affections have all been included by late authorities on sanitary science under the term "filth diseases," and that filth is a predisposing cause of them there is but little reason to doubt. May it not, however, be considered a predisposing cause of all disease? The fact that typhoid fever may be propagated by means of air and water which are contaminated by the dejections of typhoid fever cases seems to be very clearly established, and we have more evidence in favor of a *direct* connection between sewage contamination and typhoid fever than between it and the other diseases of the filth class. It may be, however, that we at present overrate rather than underrate the intimacy of even this connection. The forthcoming Annual Report of the State Board of Health will show that the town of Gloucester, which contains scarcely any pure drinking water, is no more subject to typhoid fever than neighboring towns with a pure water supply. The city Board of Health finds defective drains in a large proportion of the houses reported to it as containing cases of diphtheria; but before we can establish a direct connection between the drainage and the disease we must know the percentage of all houses, healthy as well as unhealthy, which have neither defective drains nor defective traps. A systematic investigation of this point would, I am convinced, tend materially to increase and define our knowledge of this highly complex and important subject of filth disease, so called.

NOTE. April 15th the children were moved back into ward A, which had meantime been thoroughly renovated, and April 26th that child which alone of those shut up with the diphtheria case had escaped even sore throat was taken down with diphtheria and sent to the City Hospital. May 23d she was sent back to the Samaritan, May 29th broke out with measles, a number of cases of which had been at the City Hospital, and the same day was sent thither a second time, but not before the poison had been communicated to several others of the children, as was seen in due time. No new patients were admitted to ward A until May 18th, and no new case of diphtheria has appeared up to date (July 15th). There is room for speculation as to the origin of this last case of diphtheria, but my *space* is limited. A careful comparison of dates and circumstances suggests the bare *possibility* that the disease may remain latent for a period of five to six weeks.

RECENT PROGRESS IN GYNÆCOLOGY.

BY WILLIAM H. BAKER, M. D.

Pneumatic Self-Replacement of the Uterus.[1] — Dr. Henry F. Campbell, after considering the early history of the "knee-breast," "all-fours," or "knee-elbow" position, as it was variously designated as early as the middle of the seventeenth century, shows that the writers of that period did not understand the importance of the introduction of air into the vagina for the effectual operation of inverted gravity. After giving Dr. Sims credit not only for using the genu-pectoral position in his early operations on the uterus and vagina, but for thoroughly understanding the necessity of inverted gravity and atmospheric pressure to the success of these operations, the writer ascribes credit in the use of this position in the replacement of the uterus to many of the more recent gynæcologists, giving originality to none. He then states three important conditions or powerful influences brought to bear upon the displaced uterus by the above-mentioned position, which, with the aid of the diagrams, cannot fail to be understood. These influences, as described, are, reversal of gravity, draft of the viscera, and external atmospheric pressure.

The author then gives in detail the directions for placing the patien in the genu-pectoral position, as follows: "Let the patient loosen all strings and fastenings of her dress and waist, and place herself on the bed on her knees, bending the body forward till the head and thorax are brought down to the same plane as that on which the knees are resting, namely, the surface of the bed. The face may be turned to one side, resting in the two hands, while the elbows are spread out widely from the sides. The knees are to be separated from five to ten inches. The thighs must be perpendicular to the surface of the bed. She must not arch the spine upwards, for this brings into forcible action the abdominal muscles, which should be perfectly relaxed, with the spine curved downwards, as we see in sway-backed animals. With these peculiaries fully impressed upon her, she is to breathe easily, and relax the muscles of the abdomen." Dr. Campbell, like some others, has found that by the observance of the above measures very many cases of displaced uteri may be readily replaced even by the patient herself; and in the cases where practicable it seems to us to possess the superior advantages of simplicity, effectiveness, and safety.

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[1] American Gynæcological Society's Transactions, 1876, page 198.

Artificial Ureter.[1] — After ovariotomy had been performed by Nussbaum on a patient forty-seven years of age, the right ureter having been cut in removing a part of the tumor which had become adherent to it, the urine from the right kidney was discharged by a fistula through the abdominal walls. The operation consisted in dilating the sinus in the parietes, passing the finger down to the right of the uterus, where a cavity the size of a pigeon's egg was found filled with urine, into which the right ureter opened. The urethra was then rapidly dilated, and the finger introduced into the bladder; but as the entrance of the right ureter could not be detected, a trocar was thrust through the wall of the bladder into the small cavity mentioned above, and this track was kept open by means of drainage tubes, which, however, were soon discarded, as they continually worked out of place. The passage remained patent, notwithstanding, while the fistula in the abdominal walls closed after an application of the cautery, and a complete cure was thus effected.

Abnormal Softness of the Nulliparous Uterus as a Factor in the Ætiology of Uterine Distortions, and as a Cause of Impairment of Power of Locomotion.[2] — At the forty-fifth annual meeting of the British Medical Association, 1877, Dr. Graily Hewitt presented a paper on the above subject, in which he claimed to have directed attention to the connection between marked distortions of the uterus and impaired locomotive power eight years previously, under the term "uterine lameness." Farther observations had led him to the conclusion that this softening was due to an impairment of the nutritive process in the uterus itself. Twelve cases were cited in which uterine distortion dependent on such softening occasioned a diminution of the locomotive power. In the cases mentioned the interference with nutrition was extreme, and the general strength having been regained by proper remedies the more firm character of the uterine structure was restored in a commensurate degree. From a careful study of these cases it was proved that the difficulty in locomotion arose from the fact that, in the erect position, the alteration in the shape of the uterus became intensified. Dr. Hewitt thought the great cause of this mal-nutrition of the uterus in young women was insufficient attention to the dietary during the growing age. The uterus being thus softened would be easily flexed by physical exertion of various kinds.

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[1] Baurcsches Aertzl. Intell.-Blatt, 1876, No. 7, page 63.

[2] British Medical Journal, August 25, 1877, page 258.

The summary of Dr. Hewitt's views may be given as follows : —

(1.) The discomfort in walking, or that produced by the vertical position, is due to an alteration in the shape of the uterus.

(2.) The alteration in the shape of the uterus may be quite temporary, though by a process of repetition it tends to become permanent.

(3.) A softened condition of the uterine tissues renders the organ very liable to such alterations of shape as will give rise to uncomfortable sensations, or even to acute pain.

(4.) This softened state of the uterus is usually associated with general debility of the whole system.

(5.) The softening is essentially an indication of mal-nutrition of the uterus.

The treatment advised consisted, in the first place, of strengthening the system at large by nourishment; and, in the second place, of maintaining the uterus in its proper position so long as the condition of softness continued. This latter object might sometimes be gained by the horizontal position; at other times, when of long standing, the use of vaginal pessaries becomes necessary.

From a number of cases of this class which we have had under observation we have arrived at conclusions which would quite agree with those of Dr. Hewitt; and realizing the increased amount of debility which, in some cases, is induced by local treatment, such as the adjustment of a uterine support, a question arises which is of the greatest importance to the patient, namely: whether the strength is sufficient to warrant our making the increased demand upon it required for the proper application of a pessary, in order that the long train of evils consequent upon distortions of the uterus may be averted or relieved, and thus a cause of keeping up such condition of nervous debility already established be removed; or whether such a demand upon the general strength will be too great, or out of proportion to the amount of immediate benefit to be derived from the mechanical appliance.

THE NEW YORK ACADEMY OF MEDICINE.

At a recent meeting of the New York Academy of Medicine, Prof. T. Gaillard Thomas read a valuable paper on The Best Method of controlling the High Temperature occurring after Ovariotomy. After alluding to the wonderful service which clinical thermometry had rendered to modern medical science, he presented a short sketch of its past history, during the course of which he gave full credit to Curry for his remarkable labors in this direction in the last century. But notwithstanding the great advances which had been made in consequence of the now general use of the thermometer by medical men, there was still considerable difference of opinion among the profession as to how a marked rise in temperature was to be combated when it had been detected by the thermometer. Many observers were in the habit of lauding the virtues of quinine and the various combinations of salicylic acid in this connection, but for his own part he considered them far from reliable, and agreed with many of the most enlightened therapeutists of the present day that in no manner could high temperatures be so effectually reduced as by refrigeration of the surface by water a number of degrees cooler than the body. The reason that this means had not been more universally adopted may be found in the great difficulties encountered in carrying it into practice.

Dr. Thomas spoke at some length on the bad effects produced by high temperature continued for any length of time, and also of the rapid changes produced in the system when the degree of heat was excessive, as in sunstroke, in which the blood quickly becomes acid and abounds in urea and in white corpuscles. After ovariotomy, he continued, the sequelæ most to be dreaded were peritonitis and septicæmia. In both of these affections there was a rapid rise of temperature, in the first usually occurring within forty-eight hours after the operation, and in the second, between the fourth and fourteenth days. If, now, the high temperature and pulse could be effectually controlled before the character of the blood became depreciated, one great danger would be taken away from them. This fact had long been recognized, and in order to accomplish the result desired quinine, salicylic acid, the application of ice-bags to the head, and other means had been resorted to, but they had all proved inefficient. He had long been looking for some convenient method of applying cold affusion, and had almost given up the matter in despair, when his attention was called to the fever-cot devised by Dr. G. W. Kibbé, which answers the purpose for which it is intended in the most admirable manner.

This resembles an ordinary cot in general appearance, and it is provided with a movable head and foot piece, but instead of the usual canvas there is a net-work of strong cord. Underneath this there is an apron which forms a trough for carrying off the water, one end of it being lower than the other. Upon the net-work are placed two folded blankets, and over these a folded sheet. When the patient is slipped from her bed to the cot whatever clothing she has on is tucked up under the axillæ, and then she is laid within the folds of the sheet and covered with two blankets, while her lower extremities are placed in flannel drawers or else protected by an extra blanket. Finally, bottles containing hot water are left in contact with the palms of the hands and the soles of the feet, and then the affusion is commenced, a pitcher being employed for the purpose, and care being taken not to pour any water above the level of the lower border of the axillæ or below that of the trochanters. When the affusion has been made the patient is not to be put back to bed, but is to be allowed to remain upon the cot as long as it is necessary to keep up this mode of treatment. In one case under Dr. Thomas's care the patient remained on the fever-cot for three weeks. Ordinarily the affusions are to be made about every hour at first, or as often as the thermometer (in the mouth) shows that the temperature has risen above 100° F. While undergoing this treatment the patient is not to be allowed to move, the bed-pan and catheter being resorted to in order to render it unnecessary for her to get up. Patients usually find the cot very comfortable, and are thus saved all fatigue. Should they complain of feeling chilly at any time, warm water is to be substituted for the cold in the affusions.

It is not claimed that either peritonitis or septicæmia is cut short by this method, but Dr. Thomas is fully convinced that one of the greatest dangers arising from these affections is thus effectually done away with. In the first case he reported symptoms of acute peritonitis occurring within twenty-four hours after the operation of ovariotomy. At eight A. M. the temperature was 102° and the pulse 120, and at three P. M. the temperature was 103° and the pulse 120. Between three and four o'clock the patient was transferred to the Kibbé fever-cot, and affusions of water at a temperature of 50° F. commenced. This, Dr. Thomas now thinks, was entirely too low, but at all events it had the result of bringing the body heat down to $101\frac{2}{5}$° within forty minutes. At the end of an hour the temperature was $99\frac{2}{3}$°, and the pulse 112. For twelve days continuously the temperature was kept at or below 100°, the temperature of the water employed in the affusions varying from 58° to 84°. During this time pain was controlled by morphia, and on account of vomiting rectal alimentation was maintained. That acute peritonitis was all the while steadily progressing was shown by the fact that on the fourteenth day more than a pint of pus escaped from the abdominal wound. On the twenty-sixth day the patient died, the fatal result being due to localized gangrene.

In the second case the temperature began to rise twelve hours after the operation, and soon reached 104°. Affusions of water at a temperature of 68° to 75° were employed, and in twenty-four hours from the operation the temperature had fallen to 101°. It was kept at 100° to $100\frac{1}{2}$° for five days, when acute pleuritis set in, and it went up to $102\frac{2}{5}$°. In twelve days the patient died, and the autopsy revealed pleurisy, pueumothorax, and peritonitis. It was certainly an open question whether the chest trouble had not been occasioned by the cold affusions, but Dr. Thomas was of the opinion that it was not. In two other cases there were also fatal results, which shows that the disease marches on notwithstanding the fact that the temperature is kept at the normal standard.

Dr. Thomas then related a number of successful cases, in one of which an ovarian cyst had ruptured into the peritoneal cavity, and the temperature went up as high as 105^{5}°. In another case of peritonitis, not due to ovariotomy, the patient also recovered, and here it was very noticeable that opium produced a much better effect when the temperature of the patient was about natural than when it was abnormally high.

Finally, Dr. Thomas had employed this method of cold affusions in four cases of ovariotomy simply as a preventive measure. As soon as the operation was completed the patients were placed on the Kibbé fever-cot, and whenever the temperature rose to 101° the cold affusions were commenced. All four recovered.

At the conclusion of Dr. Thomas's paper a very fine portrait in oil of the late Prof. Edmund R. Peaslee was presented to the academy, and it seemed especially appropriate that this should take place on an occasion when the session was devoted to ovariotomy, a subject with which his name is so inseparably associated. It was a further happy coincidence that Dr. Peaslee's son was admitted to the fellowship of the academy the same evening.

GARLAND'S PNEUMONO-DYNAMICS.[1]

THE work of Dr. Garland upon pneumono-dynamics will well repay careful reading. It is devoted to an exposition of the author's views upon the physical conditions which obtain with fluid effusions in the pleural cavity. He states the purport in the following words: "The object of this essay is to give a description of the true curve of flatness, to teach the proper way to search for it, to contribute certain experiments which seem to throw some light upon the origin of the curve, and finally to discuss the diagnostic value of this much-disputed symptom." This curved line of flatness with pleural effusions was first described by Damoiseau, of Paris, and later redescribed and elaborated by Professor Ellis, of Boston. As taught by the latter, it begins at the vertebral column, advances thence in a letter S curve to the axillary region, its highest point, and thence descends in a straight line to the sternum." In the earlier pages of the work extensive pleural adhesions and an excessive amount of effusion in the pleura are alone admitted to be capable of abolishing this curve. In a chapter devoted to the consideration of the circumstances modifying the curve, those conditions which diminish or neutralize the natural elasticity of the pulmonary tissue are described as having a greater or a lesser influence in this direction. The author very properly insists upon a certain manner of percussion as essential to the correct development of the curve. This consists in light percussion made in parallel perpendicular lines, from above downwards, for the establishment of the portion anterior to the dull triangle, a region situated between the angles of the ribs and the vertebral column. In this latter position he advises light percussion in horizontal lines from the vertebra outwards, in addition. The advice to leave the well side alone when endeavoring to distinguish between dullness and flatness is important. Ferber, having criticised certain previous experiments which Dr. Garland had performed by injecting plaster of Paris and glue into the pleural cavities of dogs, the author in this work gives the result of the use of melted butter of cocoa instead. This material was thrown into the pleural cavities of dogs placed in horizontal, perpendicular, and inclined positions, and in each he found his specimens to indicate hydrostatic inequilibrium, care being taken to allow a sufficient time to elapse to permit the injected material to stiffen. In a note in the latter part of the book he gives the result of an experiment upon a living dog, in which he allowed the fluid to be drawn into the chest by the elastic retractility of the lung. (The critic must confess that he regrets that the element of aspiration with inspiratory efforts is not mentioned.) The dog in this case lay on his right side, and the fluid introduced in the left axillary line was afterwards found in both pleural cavities, having filtered through the mediastinum, and accumulated for the most part like a saddle over the heart; some was, however, found between the diaphragm and lung, and in the vertebral groove, but scarcely any in the lateral region on the right, none on the left side. He states of this experiment that each lung had, irrespective of its position, appropriated an equal amount of fluid, and that both had distributed the same alike. One other experiment was performed with a dog perpendicular upon his head, the fluid being injected in the ninth intercostal space of the right side. The injected material was found covering the apex of the lung like a hood. This experiment was similar to one performed by Ferber, and gave like results. Dr. Garland claims that by inverting the animal he had caused the heavy weights of the liver and stomach (?) to bear directly upon the diaphragm, and that this had become abnormally convex toward the chest in consequence, and had thus exhausted enough of the retractility of the lower portion of the lung to allow the fluid to gravitate to the upper portion.

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[1] *Pneumono-Dynamics.* By G. M. GARLAND, M. D. New York: Hurd and Houghton; Boston: H. O. Houghton & Co.; Cambridge: The Riverside Press. 1878.

The author has also called in to his aid the toy balloon, inflating it in an ovoid glass-flask with opposite openings; through one a glass tube ran to the balloon, and the other was placed by means of a neck in contact with water These experiments were varied by employing a bottle with the bottom replaced by a rubber diaphragm, partially filled with water, and then noticing the effect produced upon the diaphragm and the water level by allowing the air to escape from a balloon, which had been inflated sufficiently to drive all air out of the bottle. The experiment was also varied by injecting the water into the flask.

The conclusions drawn from these experiments are that no fluid can compress a fleeing retractile body until the elasticity of the latter is exhausted, provided that, if injection is used, the velocity of the fluid injected does not exceed the retreat of the retractile body.

Dr. Garland devotes a chapter to the proof of the analogy of dogs' lungs in the chest to elastic bodies in closed vessels; and later considers the analogy between human lung and dog's lung, and hence claims that the conclusions derived from a study of elastic bodies in closed spaces, and from experiments performed by introducing fluids into the pleural cavities of dogs, can be applied to fluid accumulations in the pleural cavity of men possessed of normal lungs. The result is that he denies that the lung can be compressed until its elasticity is exhausted, stating that the Ellis curved line of dullness corresponds to the lower border of the lung in shape, and in position to the line of demarkation between lung and effusion; that the effusion must be considerable in order to efface it, as he has traced it as high as the third rib in the axillary line; and that as absorption takes place where this line has disappeared it will return.

Dr. Garland says that the letter S curve depends upon the following causes: (1) presence of fluid in the pleural cavity; (2) position of the patient; (3) elasticity of the lung; (4) shape of the lung; (5) negative pressure of the fluid; (6) shape of the chest; (7) absence of adhesions, complications, etc. The curve appears in its purity only in the vertical position of the body. He also states that it is modified by adhesions, change of posture to a certain extent, and diminished contractility of lung, and under the latter condition it may be difficult to trace. It is also rendered difficult to distinguish by increased condensation of lung as it retreats before the fluid, and by all those changes of the lung parenchyma which diminish pulmonary resonance, especially by œdema. He believes that the curve can be traced in hydrothorax as well as in pleurisy, and thinks that the amount of fluid is generally rated too high.

In interpreting the various physical phenomena of pleurisy he arrives at the following conclusions: that dullness over lung above fluid is due to diminished air in the lung, not to fluid between the lung and the chest wall; that the first appearance of dullness is posterior in the costo-diaphragmatic groove, where, owing to the small effusion and the thick back muscles, flatness is not discernible; that in the axillary region the chest walls are thin, and in consequence flatness is readily perceptible early. He believes that small effusions may be so held up that there shall be no change of the position of flatness, but that with larger quantities of fluid there may be a change; that respiration may effect slight changes in the line of dullness, owing to the action of the diaphragm, and that if bagged down its contraction will produce an expiration; that the cessation of friction sound is due to cessation of movement on the affected side, first from pain and then from impairment of muscular action; that bronchial breathing and bronchophony, when occurring, are to be explained by the lung assuming a state of contraction favorable to the conduction of sound, and that this is due to the vibration of the whole chest wall, and not a small section of it. The failure of puncture in certain cases to remove the whole effusion he explains as being due to the lifting force of the lung, and relies on the clinical experience of Dr. Bowditch with reference to the rise of the diaphragm, which the latter has found the source of much annoyance, preventing the fluid from flowing off.

He believes that displacements of the heart and mediastinum are due to the elastic retractility of the sound lung, aided later by the effusion; that the spleen, liver, and stomach become displaced by the diaphragm bagging down behind them, pushing them downwards and forwards; that the lung cannot be compressed until the retractility of the organ is exhausted, either by disease or by contraction, and until the effusion has a fixed point of support below from which to operate. Hence compression of the lung is impossible so long as the diaphragm is elevated into the thorax, unless it be held up by adhesions or by intra-abdominal pressure from tumors, gas, etc.; and so long as a well-marked letter S curve can be traced the lung is not compressed.

Dr. Garland thinks that the right diaphragm bags sooner than the left, because this action is aided by the negative pressure of the liver beneath, and that a very powerful lung associated with large effusion may cause but little displacement, while slighter effusions with weak lungs may cause relatively great displacement..

In the chapter on pneumothorax he applies similar reasoning to the displacements occurring from this cause, and then quotes Skoda and Powell, of England, who gave similar explanations; these, he states, he had not read until he had arrived at similar conclusions as the result of his own experiments.

He also adds that negative pressure of the lung favors absorption into the pleural cavity, and that, following the experiments and reasoning of Dybkowsky, whom he quotes, the action of the intercostal muscles favors absorption out of the pleural cavity during inspiration.

The critic has thus given a rapid survey of the words and some of the reasoning of the author. He confesses that he has read the book with a great deal of pleasure, and believes that in many points it contains a correct explanation of the facts which occur. But there are certain things which will need renewed investigation, and a careful comparison with the results of post-mortem examination. There is one other circumstance which must modify the result with effusions of some size, and that is that the lung is not like a single balloon in a glass flask, but would be more like two or three, according as we consider the right or left side. Now, it seems to the critic that even if we admit that the elastic retractility of the lung holds up the fluid, as the fluid increases the lower lobe will, as it retreats, exhaust a good deal of its elasticity in one portion more than in another. He cannot understand why the elastic retractility of the upper lobe should not, as that of the lower lobe is becoming exhausted, draw fluid between the lower lobe and the chest wall. If we take the elastic retractility of the lungs as our guide, and as we see it post mortem, we shall find that the upper and middle lobes have the power of contraction as well as the lower. Now the question is, What do post-mortem examinations of persons dead with pleural effusion show but that the lower lobe is immersed in the fluid and carnified to a certain extent when the upper lobe is not affected, or that a part of the lower lobe is so when the upper portion is much less in this condition? More than this, post-mortem examinations demonstrate that the lungs have a very variable power of retractility, and that in some cases very slight accumulations of mucus in the tubes, or a moderate œdema, will to a great degree prevent this retraction. Since reading the work the critic has been struck by the failure of the lungs in several cases to retract to any considerable extent, and this in persons not dying of pulmonary disease, and with only little or no mucus in the tubes. Where people in previously good health die rather suddenly, then, as in the collapse stage of cholera, the retraction may be marked. In that case this is owing in part to the extreme anæmia of these organs. Now the point at which we wish to arrive is this, that the lungs are possessed of a varying degree of retractility, and that the strong probability is that sickness modifies this condition as it does the activity of other parts. If this be true, — and the writer entertains no doubt of it, — it would certainly be anticipated that in pleurisy some influence in this direction would be manifest, and that in consequence the conditions are not exactly analogous when water or cocoa butter is injected into the pleural cavity of a healthy animal. The critic has found that the letter S curve is liable to variations, the subject being carefully examined since the reading of the book. It has been as high in front as in the axillary line, and the highest point has been at the angle of the ribs. That the line of flatness in pleurisy is not absolutely horizontal seems positive; that the curved line assumes the typical letter S shape is certain for some cases, but not for all, independent of adhesions, etc. Not only do post-mortem examinations show the lower lobe partly sunken in the fluid and carnified, but we feel confident that the use of an exploratory instrument would discover the existence of fluid at a higher level than the author of the book imagines. The use of a hypodermic syringe for exploration will settle this question. The critic has not had time to perform an experiment which he feels would do much towards settling this dispute. He mentions it here that some one with more leisure than he at present has may undertake it. It consists in having a glass model of the chest made from a plaster cast. This shall have an opening in the median line, through which the trachea may pass; the bottom shall be open, to allow of the introduction of the lungs, and afterwards shall be closed by a rubber diaphragm. It shall have in addition a small opening on the side to give exit to air, or to allow of the entrance of water. The lungs being inflated in such an apparatus the question of their action on the introduction of fluid would be readily manifest. The lungs, pleura, and heart of an animal newly killed, or of a recently deceased individual, could be used for this purpose. It seems wiser to employ the viscera in as fresh a state as possible, on account of the probable loss of a certain amount of elasticity after death.

The position of the heart in the thorax is that assumed as the result of embryological development, the body lying on the left side. It is, however, pretty certain that it retains this position in consequence of the mutual antagonism of the two lungs. The critic feels inclined to believe that some pressure effects may manifest themselves before the diaphragm becomes thoroughly bagged down. It seems probable that a certain amount of opposition, force, or resistance would be exerted on the part of the abdominal contents and of the abdominal wall so frequently as to prevent this being the exception. That the heart is displaced in pneumothorax in consequence of the retractile force of the sound lung we consider to be a sound proposition; that fluid has as little effect in producing the change in cases of effusion, as the author claims, we do not feel to be proven, though prepared to admit some influence from the same cause as that which operates in pneumothorax.

The amount of fluid in the pleural cavity as estimated clinically compared with the quantity actually present is, we think, as a pretty general rule, understated, rather than, as the author thinks, overestimated. This, at least, has been the result of our experience.

There are a number of other points in the work upon the discussion of which we should be glad to enter, but we feel that we have given such an outline, and made such a statement, as shall enable the reader to judge for himself. This we should advise after a perusal of the book, not of the criticism simply. New books are no rarities; books with new ideas upon medical subjects are sufficiently rare to make us give each one a hearty welcome, and a place in our libraries.

PREVENTION OF DISEASE, INSANITY, CRIME, AND PAUPERISM.[1]

In dealing with the subjects of his paper Dr. Allen confines himself to their possible prevention. Recognizing at the outset the lack of success in agencies heretofore employed to check them, he presents, in a forcible manner, the better suggestions which from time to time have been made by the more thoughtful of those who have studied disease, crime, insanity, and pauperism under their social aspects.

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[1] *Prevention of Disease, Insanity, Crime, and Pauperism.* A paper read by Dr. Nathan Allen at the Conference of Charities connected with the late meeting of the American Social Science Association at Cincinnati.

The progress in this and other countries of systematic attempts to prevent the rise and spread of diseases is briefly reviewed, and the many encouraging results are noted. Dr. Allen lays great stress upon the effects of heredity, and takes the sensible view that the transmission of disease should be prevented by care in forming matrimonial alliances. He finally quotes the words of Dr. Bowditch, namely, "Our art of the present day looks . . . . to the *prevention* as well as the *cure* of disease. And this is to be done by sanitary organizations throughout each State, the nation, laity, and the profession heartily joining hands in this most noble cause."

In regard to *insanity* Dr. Allen urges that no organized endeavors to secure its general prevention have ever been put forth. Statistics show that ninety per cent. of inmates of insane asylums are incurable. This is the strongest argument in favor of some attempt at prevention. The expense of sustaining the insane is augmented yearly by the increase of insanity. What can be done by way of prevention? Diffuse information on the subject among the general public; impress upon the people that intemperance, hereditary influence, ill health, fast living, high pressure in educational systems, are common causes of insanity, and set in motion means by which these causes, with the help of the public, may be modified if not overcome. In this work state legislatures should earnestly join. Such are some of Dr. Allen's views upon this matter.

Practical steps in the prevention of *crime* were first taken one hundred years ago, after the publication of John Howard's work on The Prisons of England and Wales. The greatest changes in behalf of prisoners have been made within the past twenty-five years. But however favorable their effect, crime in this country is steadily increasing, and prisons everywhere are not only crowded, but one fourth of their inmates are recommittals. The need is discussed by Dr. Allen from one point of view, namely, prevention. "We may check crime in criminals, we may keep persons from becoming criminals." Wherever the proper means have been used the character of prisoners has been improved and the number of criminals reduced. The moral nature of prisoners should receive more attention.

In Ireland greater reform than elsewhere has been made in prison discipline. This has been based upon a system of rewards and promotions, as well as encouragement and assistance to prisoners after their release. Similar improvements, with similar results, have been introduced into England. In this country such favorable improvement and decrease of crime cannot be reported. By way of prevention Dr. Allen recommends compulsory education, especially in low communities where children abound. Intemperance is the cause of three fourths of all crime committed. Means should be taken to prevent intemperance. Heredity being the primal cause of crime, the higher and better nature of the criminally inclined should be developed. Crime might be avoided if certain classes of vicious persons could be prevented from propagating.

In reference to *pauperism* Dr. Allen states that in New York 62.50 per cent., and in Massachusetts 67 per cent., is due to intemperance. The means of prevention here suggest themselves. In order to effect a decrease of pauperism education should be enforced, communities of the vicious and idle should be broken up, surroundings should be bettered, children of paupers should be apprenticed, and pauper families separated and scattered. But little can be done to make a person once a pauper self-supporting. Preventive means must therefore be directed to the young who are exposed to the influences of idleness, poverty, dissipation, and filth. In this way prevention will become more helpful than any attempt at cure. Prevention, too, may be made active by directing attention especially to improvement in hereditary agencies and to the crushing out of disease.

This superficial sketch gives only a hint at much more that is interesting in Dr. Allen's paper.

LECTURES ON CLINICAL MEDICINE.[1]

This recent publication of Dr. McCall Anderson comprises a series of seventeen lectures on clinical medicine, delivered in the Royal and Western infirmaries of Glasgow, and recalls the attractive volume published by the same author some time since on cutaneous diseases. In the introductory chapter of the present volume Dr. Anderson dwells at some length on the little attention that has hitherto been given to clinical instruction, and upon the best modes of imparting it. He well remarks that, without intending in any way to undervalue the importance of systematic lectures and of reading, it must be admitted that these are sorry substitutes for bedside study. He recommends small classes and competent instructors, that the patients may not be disturbed by the din and confusion of a boisterous crowd, and that the students may reap the largest benefit from the exposition of the cases.

The first lecture of the series is full of practical wisdom, and is written with all the clearness and point which characterize the writer. The author alludes to the more recent discoveries and progress in the field of practical medicine, and calls attention to the great advance in the methods of diagnosis and the modes of treatment of disease as illustrated by the thermometer, laryngoscope, ophthalmoscope, sphygmograph, the application of electricity, subcutaneous injection, not omitting the important results following the external application of cold in the form of the cold bath in cases of fever, and of iced cloths in internal inflammations or congestions.

The remaining lectures contain a series of cases intended to illustrate the value of remedial measures properly applied. The cases are well selected and stated with great accuracy, and show what grave difficulties may sometimes be overcome by empirical treatment where a more strictly scientific method is at fault.

The book is well illustrated, is in every way most attractive, and is a positive addition to the literature of clinical medicine.

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[1] *Lectures on Clinical Medicine.* Delivered in the Royal and Western Infirmaries of Glasgow. By Dr. McCall Anderson, Professor of Clinical Medicine in the University of Glasgow. London: Macmillan & Co. 1877. Pp. 208.

THE SUMMER SOLSTICE.

A MAXIMUM temperature of 98° on the 3d of July, a degree of heat not exceeded on the records of the Signal Service Bureau since July, 1872, when the thermometer once touched 98.5°, and a very high mean temperature for the first half of the month of July tell the tale, we hope, of the worst part of "this summer of our discontent." Last summer a very temperate season permitted us to regard diarrhœal diseases and sunstroke with tolerable complacency, and enabled us to forget the sufferings of 1876; but a registration of fourteen deaths from sunstroke for the week ending July 6th, and a very large number of admissions to the hospitals on account of heat prostration, make the tendencies of the season as affecting those exposed to them and the avoidance of their worst effects a matter of prime interest to all.

As was very justly remarked in the Fifth Annual Report of the Board of Health of the City of Boston, "any influence which the weather may exert on the public health does not impress itself so immediately on the death-rate as on the sickness-rate. If we had a sickness registration we could undoubtedly define a direct coincidence between unusual meteorological conditions and unusual sickness. But the fatal termination of illness is frequently postponed till long after the origin of the disease, so that we must judge with caution concerning the relation of extreme weather to death-rate undulations." To this remark, however, the death-rate undulation of sunstroke would be an exception, and it requires neither a prophet nor the son of one to foretell the increased death-rate which we may expect among the infirm and the very young, and that before the close of the present month, after even one week with an almost daily maximum among the nineties and a very high mortality from sunstroke. Now is the moment for the best work of seashore homes, country weeks, harbor excursions, and all other means for giving fresh and pure air to those who get too little of it. The interval between the maximum of heat, which is generally reached before the latter quarter of July, and the maximum of heat diseases, which we may expect before the latter third of August, is a precious moment for preventive medicine. Now, perhaps, is not the moment to urge the appropriation of one of the islands in the harbor as a city park, but such a project we hope may be realized at an early day. The summer of 1876 infused its own ardor into the discussions of the park question and the sewerage question, and it is with pleasure, in spite of the inconveniences, that we see in our streets evidences of the approaching fruition of a park and decent sewers. With pleasure we lately learned that the city government had finally made an appropriation for the abatement of the Roxbury Canal nuisance, and we would willingly offer ourselves as victims to another week among the nineties if, in addition to protection already secured against the return of the product of our sewers upon our streets, we could thereby procure the watering of the same with clean water at the expense of the city, whose money could not be put where it would do the tax-payers more good.

With the completion of these reforms, and with the continued zealous and intelligent efforts of our city Board of Health, who, by the prompt removal of offenses, are doing much to further delay and curtail the crest of the death-rate undulation, Boston may again become what it used to be, and what we were compelled last year to say it had ceased to be, one of the most delightful summer resorts of New England.

At least we may be spared the sad spectacle of rows of long streets lined with what impress one more as gigantic tombs of the dead than as houses of the living.

MEDICAL NOTES.

— It gives us pleasure to record that Dr. Harrison Allen, of Philadelphia, has been elected to the chair of physiology in the University of Pennsylvania, recently made vacant by the decease of Francis G. Smith. Dr. Allen for several years has been professor of comparative anatomy and zoölogy in the same institution.

— Our readers have undoubtedly observed the frequency of malpractice suits in the State of Maine, and will therefore read with interest the statistics given by Dr. Sanger at the recent meeting of the Maine Medical Association. "There are about six hundred regular physicians in the State. I have received reports from one hundred and fourteen of them, and in these reports have collected seventy cases of malpractice suits, fifty-five threats, and fifty-eight who have never been sued or threatened. Many, from modesty and disinclination to advertise their contributions to the patients and attorneys, who follow us as the shark does the emigrant ship, have failed to report. The youthful and unthrifty of our profession are exempt from these rapacious attacks, and yet I have reports of more than one hundred and twenty-five cases of such suits and threats within the remembrance of the present generation. Excluding those who will not report, and those who would naturally be exempt from such assaults, we may safely say that hardly a surgeon of experience and property in active practice escapes the annoyance and expense of these vexatious attacks. Of the seventy who were sued for damages of from $1000 to $25,000 six paid from one $100 to $350 rather than stand trial, and nine were cast in damages for malpractice of from $103 to $2000. The nine plaintiffs who compounded were not worth anything. Eight of the nine who got damages were not worth a dime, and all but six of those who failed to sustain their suits were worthless. Out of seventy prosecutions only seven were able to pay taxable costs, and very many of them were drunken and shiftless persons. One in eight got a verdict for damages. The nine who settled got $1980, but as one had six trials, and two others one each, and as none of the plaintiffs were able to pay the costs of a suit, it is probable that lawyers and witnesses absorbed the entire amount. The total paid on the verdicts for damages was about $6500, and as many of the suits were long and expensive, it is probable that more than one half of the sum was devoted to expenses, leaving about $3000 to be distributed. How much the lawyers realized, and how much the patients, does not appear, but a very small amount went to fill hungry mouths."

— In regard to the medical and surgical statistics of our civil war Virchow says: They were the result of "the critical, truly scientific spirit, the common sense, the sound practical intelligence, which in America gradually permeated all circles of army administration, and with the wonderful assistance of an entire people reached the highest degree of humane effort ever yet attained in a great war. . . . . In these publications the extremest accuracy in detail, statistics careful in the minutest particulars, a learned presentation of the subject embracing all sides of medical experience, are here united in the most complete manner possible."

— A gentleman walked quietly up behind a friend and suddenly planted the palms of his hands over the ears of the latter. The sudden condensation of the air ruptured the left tympanum. Professor Chisholm reports the case.

— Dr. Favrier writes to *La France médicale* that in a case of obstinate hiccough which had been incessant for fifty days, and in which he had vainly tried many sedatives, narcotics, and caustics, strong compression of the epigastrium completely arrested the spasms within five minutes. He did not try faradization of the phrenic nerve.

— The *Medical Times and Gazette* (June 1st) tells of a medical school at Kasr-el-Aïn, Egypt, which was founded in 1827 by Mehemet Ali. Since 1856, under French and German specialists, it has restored Egyptian medicine to the rank of a science. The Mahometan prejudice against dissection has been long overcome, and Western pathology having been adopted the school turns out a high class of graduates. Its curriculum extends over five years, the first two being devoted to preliminary education. Attached is a large hospital and a school of midwifery, where young women are instructed in the elements of obstetrics, are taught reading, etc. After three years of study these women are sent into the provinces, where the prejudices of Arabs and Copts forbid male practice of the obstetric art.

— Dr. Ollivier (*Gazette hebdomadaire*, May 17th) reported to the Paris Academy of Medicine a case of gout in which were found in the spinal canal appearances due to infiltration of urates at the external surface of the spinal dura mater. These spinal manifestations have hitherto been suspected rather than described.

— The Berlin Society of Military Hygiene proposes to introduce dogs into the army as auxiliaries of the ambulance corps. By means of the intelligence of these animals it is thought the sick or wounded who fall in secluded places can be much more quickly and certainly found.

— The Pennsylvania State Medical Society, at the recent annual meeting, voted to use the metric system in all communications in which reference to weights and measures is made. The society likewise voted that all members of the society recommend students of medicine to attend only such colleges as rigidly enforce the three years of study; also resolved to appoint "medical examiners," whose duty it shall be to see that students proposing to enter upon the study of medicine have a good English education, and know sufficient Latin and Greek to be able to pursue their studies with advantage. And no member of the society shall receive as a student any person who does not present a certificate from the committee.

— Dr. Danforth, of Chicago, reports that he has found the "ovarian cell" in fluid drawn from a cystic kidney. See JOURNAL, February 7, 1878.

BOSTON CITY HOSPITAL.

A RÉSUMÉ OF THE CASES OF LISTER DRESSING IN DR. CHEEVER'S TERM OF SERVICE.

[REPORTED BY E. O. OTIS, HOUSE SURGEON.]

Seven cases of operation and accident have been treated by the Lister method; four have been completely successful, two partially so, and one a non-success.

Compound Fracture of Lower End of Humerus. — The first case was a compound fracture of the lower end of the humerus into the elbow-joint in a boy of about twelve or thirteen years of age, caused by striking on a banister in falling downstairs. When he was brought to the hospital the broken end of the humerus was sticking out through an ugly wound. Ether was given, and an incision made opposite the wound, through which and the original opening the ragged end of the humerus, for one half an inch, was sawed off, and the condyles were dissected out, leaving the articular ends of the radius and ulna. The wounds were plugged with sponges and put up in a Lister dressing, which was applied not with the hope of entirely avoiding suppuration, but of lessening it. The dressing was changed every day for a while, and the wound syringed out with warm carbolic acid and water. Changing the dressing every day was probably too often, for unless there be pain, a rise of temperature, and a discharge sufficient to discolor the outer layer of the dressing, the Lister can be left on indefinitely.

There was a moderate amount of discharge, and after the lapse of about ten days a slight quantity of pus was discovered; this, however, was small in amount and continued to be so. After the first three weeks the Lister was changed only twice or thrice weekly, and in four weeks was removed, the wound being closed, and only a small superficial ulcer remaining. The extremely small amount of discharge in this case seems to be fairly attributable to the use of the Lister.

Sarcoma of the Breast. — The next case was the removal of a sarcomatous tumor of the breast. The whole operation was done under the spray, cat-gut ligatures were applied, and carbolized silk sutures; a drainage tube was also put in. The primary dressing was removed in about thirty-six hours; no signs of suppuration. Five days after the operation the wound had almost entirely united by first intention. About this time a minute orifice near the upper part of the wound was discovered, from which, on pressure, a dirty, brownish secretion exuded; evidently a part of the wound had become shut off from the drainage tube. After a few days, this opening entirely closed, and had it not been for the Lister it is probable that here would have been the starting-point for more or less extensive suppuration.

Two weeks after the operation the drainage tube was removed, and two days later the Lister discontinued, the wound being closed, and only a small granulating surface remaining; eight days after this the patient was discharged well. The highest point the temperature ever reached was 101.5° F., on the third day, and this on only one occasion. It was also remarkable how comparatively free from pain the patient was throughout the whole convalescence.

Removal of Enlarged Axillary Glands. — The third case was the removal of a mass of enlarged axillary glands, making a large, ugly wound. While tying the vessels two silk ligatures were put in and cut off short, contrary to Mr. Lister's directions. Also in the course of the operation the steam atomizer gave out, and the wound was for a time exposed to the air; still the Lister was persisted in, and a good result obtained.

Two days after the operation union by first intention seemed to be perfect, and most of the stitches were removed. A few days later the patient began to complain of pain, and the dressing was stained with the discharge. On examination a small opening was discovered in the centre of the wound, from which the discharge came, and which was, no doubt, due to the presence of the two uncarbolized silk ligatures. On this account it was necessary to change the dressings more frequently, so that in all the Lister was renewed six times. This increased discharge continued for some days, probably until the offending ligatures came away; then the wound completely healed, and at the end of twenty days the patient was well of the operation. The highest temperature was 100° F., on the day after the operation. Had it not been for the silk ligatures the wound in all probability would have been healed at the end of a week. It is worthy of note that pain to any degree existed during the time of the increased discharge only.

Removal of Needle from Knee. — The fourth case was the removal of a needle from the knee of a woman. It had gone straight down into the joint. Incidentally it may be of interest to note that this woman came to the hospital saying that while kneeling on the floor washing, some five months previous, she stuck the needle in her knee, and several unsuccessful attempts had been made at the Carney Hospital and elsewhere to remove it. It was learned from the house officer at the Carney Hospital that already three needles and parts of needles had been extracted at different times from the knee, and that in all probability the woman herself inserted the needles in her knee, for some unknown cause.

After the synovitis from which she was suffering on entrance had subsided, a crucial incision was made over the patella, and a slight projecting point being felt at the lower border of the patella another incision was made, and through this an ordinary cambric needle was seized and withdrawn. Carbolized silk sutures were used to approximate the flaps, and the carbolic spray during the latter part of the operation.

The Lister dressings were changed only twice, the first change being four or five days after the operation. There was perfect union by first intention; not a drop of discharge, and no rise of temperature at any time.

Eight days after the operation she was discharged well. On one occasion only did she complain of any pain.

Fatty Tumor of Back. — In the fifth case a fatty tumor was excised from a man's back. An incision six or seven inches long was made, through which the tumor was excised. The bleeding vessels were stopped as usual by catgut ligatures, and a drainage tube introduced. The neglect of one important point caused much after-trouble and more frequent changing of the dressings, namely, the complete stoppage of the hæmorrhage before applying the dressing.

Four days after the operation there was union by first intention, and the sutures were taken out. On account of the after-hæmorrhage causing quite abundant discharge the drainage tube was not removed until the eleventh day. Five dressings were used in all. It was hardly necessary to apply the last one, but to be absolutely safe it was put on. There was no rise of temperature, and no pain. Twelve days after the operation he was well.

Amputation of Thigh. — In the next case, which was not successful, a thigh was amputated high up for diseased bone. The stump was in a diseased condition, and it was hardly expected that the Lister would succeed. Also in the course of the operation the spray gave out, and a few hours after the dressing had been applied it came off, and was reapplied without spray. Six days later the flaps had united for the most part, but the discharge becoming purulent and offensive the Lister was discarded, and the soda and opium wash was thought to be more suitable for this condition.

Lacerated Wound of Leg. — The last case was a lacerated wound of the leg, the skin being torn up and bruised for quite a distance. A Lister dressing was applied, not with the expectation of avoiding suppuration and sloughing, but with the hope that the amount of suppuration would be lessened and the healing process more quickly begun. In five days the sloughs had entirely separated, and a healthy ulcer remained. The Lister was then discontinued.

[*Remarks.* These cases, though so limited in number, have taught us many practical points as to the application of the Lister dressing and the conditions of its success: —

(1.) The changing of the Lister dressing is regulated by these three conditions, temperature, pain, and discharge, any one of which existing calls for a change.

(2.) The Lister is serviceable, and well repays its use, in cases which from their very nature must suppurate, for the amount of suppuration seems to be reduced to a minimum.

(3.) Great care must be taken to stop all hæmorrhage before closing the wound, and in every wound of any magnitude one or more drainage tubes should be inserted, not covered by the oil-silk protective, but by the last gauze and the Mackintosh gauze.

(4.) Only catgut ligatures are to be used in the ligation of vessels which are cut short off. The neglect of this rule was illustrated in the third case.

(5.) Whatever atomizer is used in an operation of any length, it is well to have a number of towels wrung out in a solution of carbolic acid, ready in case the atomizer should fail. If the spray does stop, and the wound is left open to the air, it does not follow that the case is hopelessly lost as a Lister one, for the wound can be washed with the carbolic acid solution, and the spray again turned upon it with good hope of success.

(6.) It is well to have an abundance of salicylic cotton on hand, to fill up crevices and interstices where the gauze cannot be made to fit closely.

(7.) The carbolized sutures can be left longer than common ones, for they seem to cause less irritation.

With regard to the machinery and time used in the Lister dressings, to be sure there are more things required; still, when once obtained, they are very easily used, and the longer time spent in applying a single Lister dressing in comparison with an ordinary one is more than compensated for by the smaller number of times the dressings have to be applied. — E. O. O.]

(*Note by Dr. Cheever.*) The Lister dressing is especially adapted to hospital use. It is a cleanly and pleasant dressing, destructive to pus cells, and hence sanitary in hospital wards. That it is not indispensable to prevent suppuration in favorable cases in private practice is proved by the healing of large wounds by first intention, which has occurred in all times in country localities and in healthy persons. Recently the writer removed a breast from a vigorous woman in the Highland district by the old method of non-carbolized silk ligatures and sutures. The only innovation was the use of a rubber drainage tube, which conducted away the sero-sanguineous exudation of the first twelve hours more perfectly than the dependent coil of ligatures alone. This wound healed, literally, without pus. The patient was out of bed in one week, and attendance ceased in two weeks. The wound closed perfectly. Cold water was the only dressing used, and no antiseptic precautions were taken either during the operation or subsequently.

SHORT COMMUNICATIONS.

THE MASSACHUSETTS MEDICAL SOCIETY AND THE 'PATHIES.

Mr. Editor, — The editorial in relation to the Massachusetts Medical Society and the 'pathies, which you published in the Journal for June 27th, it seems to me does not bear strongly enough upon the real reasons for the non-admission of exclusives to our state society. The obstacles between us and them are briefly these: (1.) Their lack of sincerity. (2.) The impossibility of assimilation. (3.) Because we are so broad in our principles that we cannot admit a man who believes in a 'pathy, an 'ism, or a special theory.

First reminding you that the 'pathy which is the "vexed Bermoothes" of this discussion is homœopathy, may I be allowed to elaborate these three statements: —

(1.) Lack of sincerity. It is possible to imagine a very small (I should not dare say how small) percentage of homœopaths who sincerely believe in unadulterated Hahnemannism. They belong under the second category, and require no further mention under the first. There remains the large percentage who fly two sets of colors. They call themselves homœopaths, — they use our medicines in our doses, and consequently when the patient's condition demands an actual remedy they do not trust to homœopathy. "But," say the homœopaths and their misguided friends, "are you so bigoted that you will not allow a physician to use whatever form of treatment he may elect?" Our answer is: "Then pull down your Hahnemann colors; you cannot fight under opposing flags in the same battle. When need is, you know there is no help in homœopathy. Why, then, use it as a net for catching the simple? Hahnemannism has been proved to be a nonentity." For proof we refer to the late action of the New York society of homœopaths, which publicly disavowed its belief in this 'ism; to the recent letter of the vice-president of the Homœopathical Society of London; and to the general acknowledgment of homœopaths that there is now but little difference between their practice and ours. Our argument is that it is just as impossible for a candid and sincere man to follow these two forms of practice — ours and Hahnemannism — as it is for a man to be a Roman Catholic and a Protestant on the same day, or at the same moment of time to be in darkness and light. "No man can serve two masters, for either he will hate the one and love the other, or else he will hold to the one and despise the other." Every fair-minded individual admits the truth of this strong statement. Moreover, to profess homœopathy and follow the practice of our school is *illegal.* Judge Davis, of the Supreme Court of the United States, confirms high legal authority by the following opinion: "When a physician undertakes to treat according to the principles and practice of any particular system he must conform to that system in his treatment, and a failure to do so would be a violation of his contract, so implied by law, and he would he held liable for such violation." For this reason the New York Homœopathic Society has proposed so to alter its constitution as to *make it legal for its members to practice on any system.* We could hardly ask for a more suggestive support of the position we occupy. In their true acceptance, the two schools of practice are simply diametrically opposed to each other. Their conflicting attitude is not man's work. It is a result of the natural gravitation of ideas. Since, then, homœopaths attempt to wear two garments at one and the same time, for courtesy's sake we call them *insincere.*

This brings us to the second reason mentioned, namely (2), the impossibility of assimilation. Men who are insincere, — the larger proportion of homœopaths, who "claim the right to use any medicine in any dose they choose" (see protest of Massachusetts Homœopathical Society), — and the fewer men who sincerely believe in Hahnemannism, can have no part or lot with us. Why? Because it is simply *impossible* for us to assimilate with them. We are too unlike. Principles, and not men, create the gulf between us. This position is strictly logical. If, then, there be two classes of men with whom we can assimilate by no possible arrangement save their conversion, the candid of either side will naturally say, Then the only rational plan is for each body to go its own way.

(3.) We are too broad in our principles to admit an 'ism or a 'pathy. Every medical school but ours has a dogma. We have none. We are called "allopathists." When applied to us the very meaning of this term convicts it of untruth. It would confine us to a strait and narrow way. But our field is like the ocean. It is trackless. We use every favoring wind of heaven. The homœopathists and all other 'pathists — if *honest* — must sail a given course. We follow that in which we find relief for our patient, no matter where it leads us. Why not, then, take the course of Hahnemannism? Because it leads nowhere, but leaves us rotting at the wharves. But if we refuse to admit the 'pathists we are not broad, but "bigoted," "narrow," "illiberal." In reply to this charge we have already shown that our principles are so broad, so liberal, so generous, so eclectic, that we cannot be at ease with men who are tied hand and foot by a dogma like "*similia similibus curantur*," and which has been proved to be pure emptiness; nor can we fraternize with men whose shields bear this dogma, but who fight with our swords.

There is a class of practitioners which calls itself "eclectic." What is its eclecticism? A refusal to use any remedy unless it be botanical. A curious eclecticism! What means the word? It is selection, choice, and combination without unity or system. Who are the true eclectics? The representatives of our school. For there is no earthly thing, manner, or method which can relieve suffering that we do not hail as a friend and helper. This is the noble, manly, unegotistic, irreproachable platform which we occupy. We heartily welcome to it all and any who are properly prepared. But if any candidate have a pet theory, 'ism, or 'pathy we cannot give him sincere greeting, for he is not true blue; he does not possess that purity of professional life which is a requisite of all true discipleship. He is an egotist, a creedist, a worshiper of idols, who thinks, or professes to thinks, his way better than ours. He must gravitate to his own place. He cannot be one of us. From the very nature of our unlikeness it is as *impossible* as that oil should mix with water. To call the oil a "bigot" would hardly help the matter. This is enough and more than enough. Our reasons for not admitting homœopaths to our society ought to satisfy the most carping critic, and I have tried to give them.

Let me add that, by many, the real spirit of the remark made by Dr. Bowditch at the recent meeting of the councilors of our society, namely, "We ought never to have expelled the homœopaths," will perhaps be misconstrued. The context, "This was not done by German societies, and homœopathy in that country is dead," in the fullest sense explains the meaning of Dr. Bowditch, namely, that human nature is so constituted that the more a foolish theory is opposed the greater will be its growth. H. O.

July 8th. 7

OLD-STYLE VERSUS NEW-STYLE PRACTICE.

BY E. P. HURD, M. D., NEWBURYPORT, MASS.

When I commenced the practice of medicine the traditional saddle-bags had not quite gone out of fashion, and the physician was expected to carry about on his person the principal resources of the materia medica. Then, as even now in very many country places, the physician was his own apothecary. Having his drugs about him in their crude shape he could not be very nice about the mode of their administration. Children remembered and shunned him from instinctive dread at the remembrance of his nauseous doses. His "C. cum J." and "pil. rufii" made the strawberry jam of the good dame's pantry long obnoxious to her children in accordance with the law of association of ideas.

Now things are fast changing for the better, at least in regions that are not outside the pale of modern civilization. No more nasty castor-oil, but delicate emulsions sweetened and flavored with peach blossom and vanilla, which our patrons' children take to with avidity; the oil of the cod in honeyed potion, emulsified and digested, and fit for instantaneous absorption; laxative elixirs that have driven jalap, rhubarb, etc., out of respectable usage. And then think of the parvules, the gelatine-coated pilules, the tiny, tidy capsules, and the fascinating elixirs! And last, but not least, the wonderful variety of malt extracts which our patients declare are so appetizing! To be sure, our apothecaries complain of the hardship of having to buy all these nice things, and exclaim that even the Pharmacopœia is going out of fashion. It may be so, for the pleasant elixirs of the manufacturing chemists are fast superseding the old-time tinctures.

There may be a gain in all this, and there may be an evil, — an evil in so far as we substitute for reliable preparations of known strength those which, while advertised to contain such and such medicaments in such and such proportions, are mere sophistications, the exponents of cupidity, avarice, and dishonesty. I have had personal evidence that some of the elixirs of quinine, caffeine, pepsine, etc., are frauds, and that sugar-coated pills and compressed pills do not always contain all that they are advertised to contain. Granting, however, the reliability of these niceties in pharmaceutics, I think there is unquestionably a gain over the old modes of medication. I believe that it will hold true that a medicine is generally more efficacious that is administered in a pleasant and palatable form. I do not attempt to explain *why;* but I see no reason why remedies which are offensive to the gustatory nerves should not be offensive to the sensory nerves of the whole alimentary canal, and thus antagonize absorption. The membranous apparatus of the veins and absorbents are so far living things that they have their likes and dislikes. Certain it is that I have found in my own person that the bromide of potassium is better tolerated and more efficacious when dissolved in simple elixir or "anise cordial" than when taken in watery solution, and I have patients whose experience is similar. Three cases have just come to my knowledge of persons living in this city who have long been epileptic; these patients were for years treated by a combination of the bromides (two of them by myself) with no satisfactory results. The prescription of the potassium salt in an agreeable combination with cinchona by a Pennsylvania quack has given all three patients an exemption for four months from epileptiform attacks, — *petit mal, grand mal,* and everything. I have no interest in recording this fact except that the truth should be told, even if it be against ourselves. In two of the cases my watery solution of the potassium bromide — one-gramme dose — failed to have the slightest effect in arresting the paroxysms; there were constantly diurnal and nocturnal attacks of *petit mal,* with very frequent attacks of *grand mal.* The mixture from Pennsylvania has been thoroughly analyzed by Mr. Carl Castelhau (practical chemist) and by myself, and proved to contain no mineral ingredient but potassium bromide, and that in the proportion of one gramme to the dose; the excipient is compound infusion of cinchona with alcohol. I need not repeat that the effect was immediate, and so far has been permanent. The difference in results cannot be explained by any vague theories about the influence of mind over body, but by the theory — of which we are continually receiving striking confirmations — that medicines which are made palatable are thereby rendered more acceptable to the stomach and more readily gain access, through absorption, to parts physiologically susceptible to their influence. If they offend the sensory nerves of the alimentary canal the probability is that they will prove irritant to the nervous system generally, and be speedily expelled through the organs of excretion before they have exercised their special physiological influence.

In dismissing this topic, which might be expanded into a treatise, I would say that it is very important that in the exercise of our functions as family physicians we should be on good terms with the little folks. This requires not only patience with their whims and foibles, but some degree of catering to the gustatory sense of our juvenile patrons. Many a family physician of the regular persuasion has been abandoned for a homœopath because the children would not take the nauseous medicines of the regular. Here the nice "parvules" which contain minute doses in sugary disguise come to our rescue. Here the simple elixirs often serve a good turn; we dilute them with water, add our aconite, veratrum, etc., and children seldom object to them. Calomel, chlorate of potash, ipecac, etc., can be rubbed up with sugar and flavored so as to be quite agreeable to the infantile palate. Astringents, as tannin, catechu, are generally well tolerated in the traditional chalk mixture.

"What a blessing is citrate of magnesia," said a mother to me the other day, "and the milk of magnesia! These preparations are suited to so many complaints of children, and they never refuse to take them."

This is a common but not universal experience. I have on my visiting list little "sons of Belial" that have an inborn antipathy to everything that is called medicine. They are a trial to all kinds of practitioners.

I have endeavored in this article to indicate one of the tendencies of the times, — to eliminate from the materia medica hosts of unpalatable drugs, or find for them an excipient that shall divest them of their unpalatableness. We aim to treat diseases "*tuto, cito, et jucunde,*" but we emphasize the *jucunde.*

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UNUSUAL ACTION OF MERCURY AND CHLORAL.

Mr. Editor, — Perhaps the peculiar action of two common remedies upon the person of a young married lady, who came here some time since for advice, may not be uninteresting to some of your readers. We often find people who "cannot take quinine or morphine." Occasionally such an idiosyncrasy really does exist, just as it is possible for some people to be essentially poisoned by some common article of food or drink; for instance, the production of urticaria through the use of oatmeal, shell-fish, or sour-krout. I have known honey to produce an intense gastralgia in a lady who was very fond of it. The continued use of buckwheat will often cause a crop of boils in certain persons. Physicians are prone to regard with suspicion the statement of patients (especially ladies) who "cannot take" this or that remedy, — a suspicion which is often too well justified by their experience; but it is simply barbarous when an idiosyncrasy has been well proven to continue the exhibition of obnoxious remedies upon the theory that the imagination is to blame for all these phenomena. An instance came to my knowledge recently of a gentleman upon whom the action of any form of opium is distressing, producing a sense of constriction at the pit of the stomach similar to that caused by placing one pole of a galvanic battery over the stomach and the other on the dorsal vertebræ, and passing a powerful current of electricity through that organ. Having been a witness for a year or two past of the unusual action of mercury in any of its forms, as well as the peculiar action of chloral hydrate upon the person of a lady, I trust that at least a portion of your readers will find it of sufficient interest to repay them for the time spent in perusal. Mrs. A. is a young married lady thirty years of age, with marked nervous temperament. She has never had any illness. Upon returning from Europe a few years ago she visited an infirmary in New York. Being troubled with constipation, the attending physician prescribed a pill containing some form of mercury. A few hours after taking the pill, Mrs. A. was awakened by an itching, burning sensation over the whole body. Upon examination the skin was found to be red and of a burning heat to the touch, resembling very much the skin of a child suffering from scarlatina. The distress from the burning heat and pruritus lasted for twenty-four hours, but finally subsided. The case was treated as one of erysipelas. At the end of about eight or ten days the skin over the whole body began to crack, and desquamation began; large flakes came off, as she describes it, "as large as the palm of the hand." Not a square inch of skin over the whole body failed to peel. Mrs. A. suffered no further inconvenience, except that the new skin was very tender and sensitive. Two years afterwards, in Detroit, the same thing occurred, and then it was surmised for the first time that mercury occasioned the trouble. Some time later Mrs. A. came under my treatment, and, having occasion to prepare a lotion for her containing hydr. bichlor., she asked me, while pouring a little into the palm of her hand, if it contained mercury. Upon replying that it did, she immediately washed her hands carefully, but too late to prevent the customary effects. In about a week she sent for me and showed me her hands, cracked and almost bleeding. Once since, having taken a bath in a bath-tub at a boarding-house, there was a more general exhibition of the poisonous effects of mercury upon her system, although the body was not as generally affected as when the mercury was taken internally. It was ascertained that an inhabitant of the boarding-house who was troubled with the unpleasant little insect, the pediculus pubis, had used mercurial ointment for its removal, and afterwards had taken a bath, which explained what seemed at first inexplicable. Hydrate of chloral produces when taken internally a deep red, congested spot upon the left wrist of this lady within twenty minutes after it is taken; this also is followed by the cracking and peeling off of the skin. I have no suggestion to make in regard to the mercury, which undoubtedly plays the part of an irritant poison. As regards the chloral, after having tried it twice with the same result, I hesitate to give it, fearing that if it will produce such a remarkable local congestion, the same thing might possibly occur in the brain.

CHICAGO, ILL. L. H. WATSON, M. D.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending July 6, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	665	31.63	23.42	28.71
Philadelphia.	876,118	411	24.39	18.80	21.54
Brooklyn.	549,438	312	29.53	21.51	25.50
Chicago.	460,000	136	15.37	17.83	22.39
Boston.	375,476	148	20.49	20.10	24.34
Providence.	100,000	52	27.04	18.81	19.20
Lowell.	55,798	23	21.43	19.09	22.50
Worcester.	54,937	23	21.78	14.07	22.30
Cambridge.	53,547	19	18.44	18.69	20.83
Fall River.	53,207	22	21.50	21.35	24.96
Lynn.	35,528	8	11.71	20.42	19.67
Springfield.	33,981	12	18.38	16.02	19.77
Salem.	27,140	7	13.41	20.38	21.15

BOOKS AND PAMPHLETS RECEIVED. — Antagonism of Alcohol and Diphtheria. By E. N. Chapman, A. M., M. D. Brooklyn. 1878.

Case of Hydrophobia. By J. P. Maynard, M. D., Dedham. (Reprinted from the Boston Medical and Surgical Journal, October 15, 1857.)

De quelques Accidents de l'Epilepsie et de l'Hystéro-Epilepsie. Par Émile Bovell. Paris. 1877.

The Application of Pressure in Diseases of the Uterus. By V. H. Taliaferro. Atlanta, Ga. (Reprint from the Transactions of the Medical Association of Georgia.)

Certain Symptoms of Nervous Exhaustion. By George M. Beard, M. D. (Reprint from the Virginia Medical Monthly, June, 1878.)

Litholopaxy, or Rapid Lithotrity with Evacuation. By Henry J. Bigelow, M. D., Professor of Surgery in Harvard University, etc. (Reprint.) Boston: A. Williams & Co. New York: William Wood & Co. 1878.

Horseback Riding from a Medical Point of View. By Ghislani Durant, M. D., Ph. D. New York: Cassell, Petter, and Galpin. 1878.

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THE CAUSATION OF TYPHOID FEVER.[1]

BY GEORGE E. WARING, JR., NEWPORT, R. I.

Liebermeister says that typhoid deejctions, conveyed in night-soil spread as manure upon the gathering ground of an aqueduct, so contaminated the water supply as to produce an epidemic of typhoid fever among the population using the water.

Similar instances might be cited almost without number. Indeed, there is among investigators no difference of opinion as to the communication of the disease by means of drinking-water thus polluted. There are many instances recorded of the contamination of the water of wells by the transmission of fæcal matters through the soil from adjacent privy vaults and cess-pools. One of the most striking of these is that of an outbreak in the village of New Boston, in Erie County, N. Y., in 1843, investigated and reported upon by Dr. Austin Flint, Sr. From its early date this case is worthy of description here. No case of typhoid fever had ever been known in the county. The community numbered forty-three persons; twenty-eight of these were attacked with fever, and ten died. All of those affected obtained their drinking-water from a well adjoining the tavern; but one family, living in the midst of the infected neighborhood, owing to a feud with the tavern-keeper, did not drink this water, and escaped infection. Two families lived too far away to use this well. This immunity on the part of the enemy of the tavern-keeper led to a charge that he had maliciously poisoned the well, — a charge which resulted in a suit for slander and the payment of one hundred dollars damages. At that time the idea that typhoid fever might be communicated by infected drinking-water had not been advanced; but its truth receives strong confirmation from the fact that a passenger, coming from a town in Massachusetts where typhoid prevailed, and traveling westward in a stage-coach, having been taken ill, was obliged to stop at this tavern. Twenty-eight days after his arrival he died of typhoid fever, and thus, doubtless, transmitted in some way to the water of this well the germs of the disease, which speedily attacked every family in the town except the three which did not resort to it for their supply.

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[1] Concluded from page 71.

Not only does water itself serve as the direct vehicle of contagion, but it has, in several striking instances, caused the serious contamination of milk which had been directly diluted by it, or which had been stored or carried in vessels washed with it. The most noteworthy of the reported cases of this character is that of an outbreak in Marylebone and the adjoining parts of London, reported by Radcliffe in the second number of the new series of reports of the medical officer of the privy council. Two hundred and forty-four cases were distributed through one hundred and forty-three households. There was at that time no corresponding increase in neighboring districts, and the metropolis generally was unusually free from typhoid. The conclusions arrived at were the following: (1) the outbreak was caused by milk infected with enteric fever material; (2) this milk came from a particular farm; (3) the water used for dairy purposes on this farm contained excremental matters from a patient suffering from enteric fever immediately before and at the time of the outbreak. Of one hundred and ninety-one cases occurring in nine weeks, one hundred and sixty-seven were in households taking this milk, and only twenty-four in households not taking it.

All evidence points to the long vitality of the infecting material, which lies dormant at times for many months, and then, under favoring circumstances, acts with violence.

Not only does the infection follow the course of water to which it has gained access, or find its means of dissemination in the exhalations of decomposing filth, and thus contaminate the air which we breathe, but these exhalations are readily absorbed by water, which is capable of holding the poison, to the detriment of those who may drink it, and of transmitting it again to air with which it may be in contact. Many cases have been reported similar to that cited by Dr. Carpenter, health officer of Croydon, who traced the origin of an outbreak to the drinking of water from a house cistern, to which air from the public sewer had been led by the pipe serving as an overflow for the cistern.

Especial danger attaches to the use of water-traps, or water held in the bends of waste-pipes, soil-pipes, etc., when these are the only barrier between the interior of the house and a sewer or cess-pool containing typhoid dejections. The retained water absorbs the poison at its outer or sewer end, becomes saturated with it, and gives it off to the air in the house end of the pipe.

The conclusion from the foregoing is clearly this: that the dejections of typhoid patients are always to be regarded as dangerous material, capable of developing and spreading the fatal infection under a great variety of conditions; that the only sure means for preventing the spread of the disease must be sought either in the speedy, complete, and distant removal of the material, or in its complete disinfection.

If to be retained in the vicinity of human habitations, it must be disinfected, or subjected to decomposition, under such conditions that its poisonous material shall be destroyed; if to be removed, it must be removed to a point beyond the reach of the community, and to a point where it can in no wise contaminate the source from which drinking-water is taken.

The contagium of typhoid fever is not a poison in the sense in which strychnine and arsenic are poisons, — attacking alike each body into which it may be introduced, — but, like the contagium of other diseases of its class, it depends upon a certain condition of susceptibility on the part of the subject. This infection, like many others, is inoperative except upon a system prepared to receive it. In other words, we must have not only the seed but also the soil. In discussing the causation of this disease with the practical object of seeking the means for its prevention, we have to regard not only the source of the contagium, the vehicles of its transmission, and the method of its attack, but in almost equal degree those influences which tend to dispose the human body to succumb. This double condition (that there must be, if not absolutely always, at least very generally, an actual element of contagion, whether germ or specific poison, and also that there must be a state of susceptibility on the part of the subject) greatly improves our chances of success in contending with the disease. We know where the morbific material resides, and so are enabled to avert its approach; and, on the other hand, we know what conditions of living induce the susceptibility, and so have it in our hands, by improving these conditions, to increase the power of resistance.

So far as the prevention of typhoid fever is concerned, aside from tonic medication, the means to be employed are of a purely hygienic character; it is a question of the skill of the practitioner as a sanitarian rather than as a physician. He has two objects to attain: first, the removal of the infecting cause; second, the provision of healthful conditions of living. If the theory is correct that, as Dr. Murchison supposes, typhoid fever may originate *de novo* from the decomposition of organic matter, then the two objects are to a certain extent blended, in so far as atmospheric conditions, which might induce susceptibility, are also capable of causing the disease. In effect, our practice will be safely guided if we regard the two objects as separate and distinct.

Starting with the proposition that typhoid fever is produced only by the operation of a specific cause borne in the dejections of typhoid patients; that it is innocuous when first voided, but becomes active after a certain exposure in the decomposing fæces; that it has great vitality; that it is capable of being carried by flowing water, by water percolating through the earth, and by the vapor of water floating in the air; that it may be absorbed and retained and exhaled by water; and that it may be retained, developed, and transported by clothing and other articles soiled by its medium, we see that the greatest possible vigilance and the most skillful care are to be applied to the treatment of typhoid dejections. Some of the experiences of England indicate the truth of the statement of the Rivers Pollution Commissioners, that so far as the cause of infection is concerned "filters do not filter and disinfectants do not disinfect." It will at least be safe to assume that in the case of water-carriage the immediate distant removal and the most complete atmospheric exposure are much more effective than any treatment of sewage by the usual methods of filtration; also, that any attempt at chemical disinfection must be more than ordinarily thorough. There is reason to suppose — reason almost sufficient to secure reliability — that the poisonous element is developed and made effective only when the decomposition of the fæces containing it takes place in the absence of a supply of fresh air sufficient to carry it on in the most rapid and healthy way. In other words, active oxidation, whether produced by oxidizing disinfectants, by the operation of atmospheric oxygen, or by the intensified oxidizing power of the contained gases of porous material, seems to prevent decomposing fæces from assuming a condition favorable to the development of infection. The evidence in support of this theory is of course of a negative character, but it is extensive, and, so far as the writer knows, it is accepted by leading physiologists.

Typhoid fever is not produced by exhalations from the surface of lands irrigated with the discharge of such sewers as have a rapid and continuous flow, and thereby deliver all they receive before it has had time to undergo decomposition. There is no evidence that typhoid fever is caused by the contained air of thoroughly ventilated soil-pipes. The most active professional enemies of the earth-closet system have never adduced an instance where typhoid fever, or any other cognate disease, has followed its well-regulated use. In *The Lancet* of March 6, 1869, Professor Rolleston, setting forth his objections to the earth closet, said: "If I am told that the earth closet is inoffensive, and that the privy is fœtid, I answer that a rattlesnake is none the less dangerous because its rattle is removed; and that, for anything shown or known to the contrary, odor is to infection, deodorization to disinfection, what the noise of the serpent is to its bite." It is nine years since this was written, and amid all the voluminous reports upon the dry-earth system there is no word to sustain Dr. Rolleston's fears. On the other hand, together with much else of similar purport, the evidence of Dr. Monat reports that in those jails of India where the earth system is used, even at the time of the most serious cholera epidemics, this disease, which is so like typhoid in its mode of transmission, never gains a foothold. One would almost be justified in replying to Professor Rolleston, that it is not a question of removing the rattle, but of killing the snake. Investigations made to determine the manurial value of closet earth used many times over indicate a total and absolute destruction, not only of the odor but of the whole combustible material of the added fæces. The result has shown as complete destruction as would attend burning in a furnace.

This destructive oxidation depends upon the well-known concentration upon the surfaces of the interior particles of aerated porous substances. The intensity of the action is in proportion to the fineness of the material, or, in other words, to the total area of its interior surfaces.

It is perhaps not safe to assume that in dealing with such dangerous material as typhoid excreta treatment with dry earth, or ashes, or charcoal will suffice to render it harmless, but it will be more effective in this direction than anything else of which we have knowledge, and will at least prepare it for safe removal.

The physician in considering the treatment of the material in question has one of two sets of conditions to deal with. The fæcal wastes of the household which he is attending are either removed by water-carriage, or thrown into privy vaults. If by water-carriage, they are delivered into a public sewer or into a cess-pool. Sewers, as they usually exist, and cess-pools always and invariably, are so circumstanced as to favor the thorough development and multiplication of the morbific material under consideration. Unfortunately, sewers and cess-pools are so connected with the interiors of houses, with others as well as with that where the disease originated, as to make them too often the means for converting a sporadic case into a centre of infection. Even the house drains and soil-pipes through which the excrement passes on its way to the cess-pool or sewer are very generally as bad as these final receptacles themselves, while almost always the only barrier to the free return of their air and its poisonous freight into our very living rooms is the water retained by a depression in the pipe (the trap), which water constantly absorbs and transmits the gases presented to it.

Where these water barriers are supplemented with one of the many mechanical check valves recently introduced, this means for the return of the infection is shut off. Where the soil-pipe and drain are freely open at both ends for the transmission of a current of atmospheric air, the danger of the development of the poison is greatly reduced, if not entirely removed. But even here, although we may feel secure so far as the immediate household in question is concerned, it is to be remembered that, at least in the case of a public sewer and of a cess-pool common to several houses, the matter deposited may produce its injurious effect in other families which are less well protected against it. Even where the cess-pool is connected with one house only, to permit the specific poison of typhoid fever to enter it and to spread itself through its accumulated filth is to incur a danger akin to that of establishing a gunpowder vault in one's back yard.

When infected fæces are to be thrown into a water-closet or drain they should at least be treated with the strongest and most destructive chemical disinfectants, carbolic acid being by no means sufficiently so.

When the fæces of the household are received in a privy vault, it must be accepted as an imperative rule that typhoid dejections must never, under any circumstances, find access to this. Abundant and conclusive evidence shows that such accumulations of fæces only await the introduction of the least germ of any diarrhœal disease to become, by means of their exhalations and of their pollutions of the soil, active agencies of development.

Even when the earth-closet system is employed, none of the regular apparatus should be used by the patient, or become the receptacle of his dejections; this for the simple reason that it should be our first object to secure the most complete isolation of the tainted matter from every substance which might foster the increase of its tainting element.

It would be better, perhaps, to stop with this general statement of principles, leaving each practitioner to apply them according to his judgment, but one is tempted to recommend what one believes to be the most efficient process, and I therefore take the liberty of suggesting that a chamber or bed-pan, filled to the depth of an inch with dry earth, or with sifted anthracite ashes, or with powdered charcoal, be used to receive the evacuation; that this be immediately covered with a further inch in depth of dry material, and that the whole be turned into a *shallow* hole in the ground and covered with earth not more than two inches deep, so that it may go through with its decomposition in the upper soil within easy reach of the oxidizing air. If to be removed quite away from the premises, the earth containing the dejections may be thrown into a barrel or box, each deposit being covered with fresh earth, and *carefully protected against rain.*

It would be out of place here to enter into all the details of the hygienic law. In a paper written for the profession this would be, too, a work of supererogation. At the same time it may be advisable, in this connection, to refer briefly to the manner in which, and the degree to which, the general health is influenced by exhalations from decomposing organic matters in sewers, house-drains, vaults, cess-pools, and cellars. It must have been the frequent experience of all physicians that every question as to the tainting of the air of a house from these sources is met by the assertion that no bad smell has ever been perceived. In the first place, the accustomed nostril is dull to detect a constant odor, and in the next it is hard to make people believe that where they can smell no offense there still may be danger. We ourselves know that the juices of the cadaver are most fatally dangerous before offensive decomposition has set in. Those who have given attention to the influence of drain-air in causing disease know very well that the action of this upon the health bears no relation to the intensity of its accompanying odors.

The only safety is to be sought in the absolute freedom of the air that is breathed and of the water that is drunk from every species of contamination due either directly or indirectly to organic decomposition. A little rift in the waste-pipe of a wash basin, so slight as to be detected only by the application of tissue-paper, has kept a whole family miserable and complaining, and susceptible to every species of contagion, for years together. Decaying vegetables in a cellar, and decaying filth in the waste-pipe of a kitchen sink, may be regarded as the bane of the existence of half the women in America. Those more serious defects which come of ignorantly arranged plumbing work — by no means of good plumbing work, which is the sanitarian's best aid — are responsible not only for most of the zymotic diseases appearing in the better class of houses, but in like degree for the generally ailing condition of so many of those who pass most of their days and nights in these houses.

The regulation of all these helps to healthfulness is a matter of detail which may well engage the best attention of the profession. Even the cataloguing and classification of the subject here would be impossible. The fundamental principle should always be borne in mind that neither in a sewer, nor in a cess-pool, nor in a house-drain, nor in a soil-pipe, nor in the smallest waste-pipe should decomposition be allowed to proceed without such an abundant presence of fresh air as will secure its most rapid and complete progress. The same condition of obstructed decomposition which fosters the development of infecting agencies is precisely that which leads to a generally unwholesome and debilitating atmosphere. All investigation of this subject, and all discussion of the *modus operandi* by which unwholesome influences lead to the spread of epidemic diseases and to the lowering of the general health, bring us at the end to a firm belief in the principle covered by Hippocrates's prescription: pure air, pure water, and a pure soil.

RELATIVE FREQUENCY OF COLOR-BLINDNESS IN MALES AND FEMALES.[1]

BY B. JOY JEFFRIES, A. M., M. D.

In an article written last fall on the dangers of color-blindness, and just published in the Massachusetts State Board of Health Report, I stated, "It has been frequently said that color-blindness was less common among females than males. This is *probably* incorrect, and due to the fact that such a defect is of more importance with the female sex, and therefore more carefully concealed. They have not been tested as males have ; and most likely future statistics, based on true methods of testing, will reverse the now quite general impression as to their having better color perception, and hence to be preferred, where admissible, as railroad employés."

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[1] Read at the Suffolk District Medical Society, May 25, 1878.

My doubt was also based upon the fact that we had no large number of reliable statistics to prove the contrary. But more especially because methods of testing for color-blindness in females had been employed, calling upon the observed to name colors shown, which females from habit could unquestionably do with greater facility than men, and hence fewer appear deficient in color perception. Professor Wilson, in his Researches on Color-Blindness, says, page 75, " I have no results to offer respecting the prevalence of color-blindness among females. I have already stated my conviction that it is rarer among them than among males, but only an extended inquiry can show the amount of difference in this respect between the sexes." In a note in his appendix, page 164, he adds, " Since the text was written I have been informed of a few more cases of color-blindness among educated women in England. The general tendency, however, of my later inquiries, as of my earlier ones, is to show that color-blindness is very much rarer among women than men."

Dr. A. Favre, in an article in the *Gazette hebdomadaire*, October 12, 1877, says, " We have tested very few adult females, from the difficulty of such examinations, but more especially because the majority of women readily acquire an exact notion of colors, and they do not belong to the professions where color-blindness is dangerous ; hence they do not interest us more in an industrial than a medical point of view. Among 236 girls of four schools (three in Lyons, one in Paris) we found 8 children only who made serious mistakes, namely, 3.39 per cent. In the ' salles d'asiles ' and the infant schools the errors were as frequent among the little girls as boys."

It must be remembered that Dr. Favre reported an enormous number of children of both sexes as color-blind, but he tested them by asking the names of the colors of objects held up before them. He found, as may be readily imagined, many of the youngest children of both sexes unable to answer correctly, whilst among the older children the girls had naturally learned the names of colors better than the boys. This I think is all that his test proves, as I have shown in the JOURNAL, March 28th.

In 1860 Dr. Henri Dor, of Bern, tested in Berlin 611 women, using a method similar to that of Professor Holmgren's, namely, the sorting of colored worsteds, with the result of finding only five or 0.82 per cent., or one in 122 color-blind. This method does not call upon the examined to name a color, and the eye alone, not memory, guides the hand. Its value is shown by the results it gave. Perhaps these investigations of Dor's should have prevented my doubting the less frequent occurrence of color-blindness in women than men. They seemed, however, to stand somewhat alone, and not sufficiently extended. Perhaps the same criticism will be passed upon my own, shortly to be reported. Professor Holmgren, in his recent work on color-blindness, touches on this point, and as his experience renders what he says of special value I quote his remarks:[1] "Our results thus far are principally derived from the examination of men. Therefore we do not venture to deny the commonly admitted statement that color-blindness is more frequent with men than women, since we lack the necessary data. We should mention here Professor Dor's test of the quite respectable number of 611 women in Berlin, amongst whom he found but five color-blind, or less than one per cent. We would by no means deny the possibility of a less frequent occurrence in women; on the contrary, we incline to believe that it is probable. In drawing conclusions from the statistics of the examination of women hitherto made, we must first of all ascertain if the method of testing was such that the previous occupation of the examined had not affected the results obtained. For if the method was based on the principle of asking the names of the colors of objects exhibited, and the chromatic sense of the person examined judged by the reply, then it is very evident that the proportion of color-blind will appear less with women than men. We are by no means certain that this is not the explanation of the results so far ascertained. However this may be, and even admitting that color-blindness is less common in women than men, we are by no means justified in attributing this to their greater familiarity or exercise with colors. If exercise can have any such influence, it cannot, as we have seen, cure the individual, but rather affect the offspring, as employment insensibly affects future generations. The laws of heredity are too little known to allow us to indicate or even conjecture how this takes place, but we do know with certainty that good qualities as well as defects are transmitted, and amongst the latter we may include color-blindness. We believe, moreover, that the exercise of a sense may favorably affect heredity, although it is difficult for us to prove this."

Probably at the present moment observers in Europe are testing this question of the relative color-blindness of the two sexes. Their results, if Professor Holmgren's method is employed, will be of great value. The only reports of this character yet come to my hand are those of Dr. E. Hansen, of Copenhagen, who found none color-blind among 50 female railroad employés, and of Dr. A. Daae, of Kragerö, Norway, who also used Holmgren's method with the worsteds in examining 413 school-children of both sexes, from nine to fifteen years of age.[1] Among 205 boys he found 10 color-blind and 11 with imperfect color perception. Amongst 208 girls he found none color-blind, and only five with imperfect color perception (*herabgesetzter Farbensinn*). He says: "The better color perception of the girls than the boys was very marked. Is this because the girls have personally more exercise with colors than the boys? If this is the case, then we must assume that even very considerable degrees of color-blindness may be relieved by many years' exercise. This is, however, not probable. It is more probable that the better color perception which the female sex has acquired and developed by many generations of handling colored objects is essentially sexual, or only inherited by the female descendants."

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[1] De la Cécité des Couleurs, etc., page 57. Stockholm. 1877. F. Holmgren.

Since February 23, 1878, when I read an article before the society on the incurability of congenital color-blindness, my experience with intelligent and educated persons thus afflicted has fully substantiated what I then said, namely, that it has not been and cannot be cured by exercise with colors. The color-blind reported to me their futile attempts to do this, as others, for instance, reported to Professor Wilson years ago, and to Professor Holmgren more recently. Greater familiarity with and more constant use of colors on the part of females seems at first sight to explain their somewhat extraordinary exemption from color-blindness as compared with males. This does not, however, affect the individual. Whether the individual is influenced through generations of female ancestors exercised with colors I must for the present leave with Mr. Darwin to discuss.[2]

In any such discussion there are some points of heredity which must not be overlooked. The very first case of color-blindness ever published was that of a shoemaker named Harris, in a letter of Mr. Joseph Huddart to the Rev. Joseph Priestley, January 15, 1777, to be found in the Philosophical Transactions of the Royal Society of London, Part I., 1777: "He had two brothers in the same circumstances as to sight; and two other brothers and sisters who, as well as their parents, had nothing of this defect." The transmission of the defect in the male line alone is very frequent. But there are cases of the reverse on record. Dr. Pliny Earle reported out of 61 relatives — 32 males and 29 females — 20 cases of color-blindness, two of these being females. Again, Cuvier, in the first volume of the *Annales d'Oculistique*, 1838, reports the case of a lady who was color-blind. Her mother and two sisters were the same. Her brother was free from the defect. The lady had six children, — one son not color-blind, and five daughters affected like herself. The oldest daughter had four children; two of them girls, color-blind. The second daughter had a boy and a girl, the latter color-blind. The fourth daughter unmarried. The fifth left a boy myopic, but not color-blind. We thus have the remarkable instance of color-blindness appearing only in the females of a family for four generations. Heredity has here apparently acted without reference to or directly against the accumulated effects of generations of exercise with colors. My own experience agrees with Professor Wilson's in England, namely, that hardly a person affected with color-blindness will be found who cannot remember or mention one or more relatives with similar defect of vision. It has seemed to me to act as any other family peculiarity or mark; for instance, skipping one to appear again in the succeeding generation, etc. It is certainly a very curious fact that if generations of exercise with colors is gradually eliminating color-blindness from females, this should not have checked its transmission through females exclusively for four generations.

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[1] Vide Magazin for Lægeridenskaben, Bd. 7, Heft vii., 1877; or Centralblatt für Aug., April, 1878.

[2] Professor Delbœuf, of Liège, reports in the March 23d number of the *Revue scientifique* that by looking through a solution of fuchsine he was enabled to correct in a great measure his red-blindness. M. Spring, who worked with him later, found that he could render himself color-blind by looking through a solution of *chlorure de nickel*.

My own results as to the relative frequency of color-blindness in males and females are as follows. In the Institute of Technology in Boston, the various departments of Harvard University, Amherst College, and Brown University, I have tested 1021 students and instructors, finding 46 color-blind, or about one in 22. This corresponds with the average experience of European observers. I used Holmgren's method, with colored worsteds. It did not seem necessary to test *all* students of these institutions, even if it were possible, since my ratio is wholly borne out by examiners on the other side of the water. As to females, I considered it necessary to test each and all of any one institution. I therefore commenced at Wellesley College, and was surprised to find but one color-blind girl among 302. Her mother, she told me, was also color-blind. Five or more of the students voluntarily mentioned having color-blind blood relatives. This result appeared so extraordinary that I should have been inclined to doubt the test, or my own ability to apply it properly, had I not already familiarized myself with it in several hundred of previous examinations of men. I therefore felt it necessary to push on in this direction with institutions where I could be assured of being able to test each and all, and am now at work in the public schools of Boston by permission of the school board. I would so far report as follows: In the Girls' Normal School, Boston, 84, being all, and none color-blind. Their ages, eighteen to twenty-two. In the Girls' High School 549, being all, none color-blind. Ages fourteen to twenty. Exeter Street School, all the girls, numbering 90, none color-blind. Ages eight to sixteen. Thus I found but one color-blind among 1025 females, whilst among 1021 men I found one in 22 deficient in the chromatic sense. The relative proportion of the three forms of color-blindness — red, green, and violet — I will not enter into here, but merely remark that I found, as other observers have, the first much the more frequent, whilst of the last only three cases occurred, and these by no means so marked as the other forms. As to the value of these results, I admit that they of course depend on the exactitude of my observations. I therefore would say that from familiarity with the test I feel perfectly sure that I detected color-blindness where it existed. I always pushed the test much further than would seem necessary, often thereby causing remark and question from the bystanders. Although seemingly tedious and monotonous from the tax upon the eye and ear and voice of the examiner, I found my tests of great psychological interest, frequently shared in by educated observers.

Since this paper was read at the society I have received the reports of Drs. Hermann Cohn and Hugo Magnus in Breslau, who the past winter have been like myself engaged in the examination of school-children for color-blindness. They employed the same method as myself, namely, Professor Holmgren's, and their results agree with mine above given. Among 2761 boys they found 76, or 2.7 per cent., color-blind. Among 2318 girls they found only one color-blind, or 0.04. This defect seems, therefore, a very great rarity among females. Color-blindness occurred twice as often among Jewish children as among Christians. The single case among girls which Dr. Cohn found was one of red-green and blue-yellow blindness, quite atypical.

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TWO CASES OF EMPYEMA; RAPID RECOVERY AFTER OPERATION.

BY W. H. WORKMAN, M. D., WORCESTER.

Case I. A. B., a boy of five years, came under the notice of Dr. Henry Clarke upon the 14th of April, 1875, having been ill about three weeks. He was much emaciated, very feeble, and was bathed in perspiration. His temperature was considerably elevated. He had been allowed but little nourishment, and was said to have been treated for " disease of the liver." Examination revealed extensive effusion in left side of chest. The next day, April 15th, the aspirator was used, and three pints of pus were withdrawn. After the operation the child improved, and took nourishment and stimulants freely. April 25th, the chest having refilled, Dr. Clarke made a permanent opening in the eighth intercostal space below the angle of the scapula. A considerable quantity of very offensive pus was evacuated. The cavity was thoroughly washed out with a weak solution of carbolic acid. Stimulants, liquid nourishment, and tinct. ferri chloridi were prescribed, and the pleural cavity was to be washed out daily with a solution of carbolic acid. This treatment was carried out chiefly under the supervision of the writer, and the further progress of the case was as follows: —

On the day after the operation all fætor had vanished. There was but little discharge, and that sero-purulent. The child was comfortable and much brighter. From this time the discharge diminished daily in quantity, was chiefly serous, and was destitute of odor. The strength improved, and cough was not urgent. The lung, which had been much compressed, expanded and resumed its natural position. About five weeks after the permanent opening was made, respiration could be heard quite to the base of the chest, of good quality, and unattended by râles or friction sounds. The diseased side was somewhat flattened. The opening was now allowed to close, and all symptoms being favorable the patient was discharged. A few months ago he was seen and examined by the writer, who could discover no deformity, nor other trace of disease. The left side was in every respect the equal of the right side of the chest.

Case II. On the evening of August 10, 1877, the writer was called to a child three years of age, who had been ill for a month with cough accompanied with fever and thirst. When seen the patient was lying with half-closed eyes, apparently unmindful of what was taking place around him. He was pale, emaciated to a skeleton, and coughed frequently. Respiration was moaning, and about fifty per minute. Temperature in axilla 99.2° F.; pulse 160. The left side of the chest bulged considerably, the intercostal furrows being obliterated, while upon the right side they were strongly marked. Percussion of the left side revealed greatly diminished resonance above the second rib in front and in the supra-scapular fossa; thence absolute flatness to the base both in front and behind. Upon auscultation distant respiration without râles or friction sounds could be heard over the whole of the left side, evidently transmitted from the right side, since the quality of the respiration on the two sides was the same. The respiratory murmur of the right side was harsh, but attended with no râles. The heart was pulsating almost entirely to the right of the sternum, the apex impulse and systolic sound being situated about an inch to the right of this bone in the fifth intercostal space.

Stimulants were freely given during the night, and the next morning, with the assistance of Dr. J. B. Rich, I withdrew with the aspirator forty-six ounces of odorless, chocolate-colored pus, the puncture being made in the eighth intercostal space, a little outward from the angle of the scapula. Reversing the action of the instrument, the pleural cavity was thoroughly washed out with a one per cent. solution of carbolic acid. No severe coughing followed the operation. Immediately afterwards the child fell asleep, and the pulse, which previous to evacuation of the fluid was 166, fell to 148.

The next morning the patient was much brighter, noticed all that was being done in the room, and called for and was allowed to eat a small "fried pout." Temperature under the tongue 99°; pulse 144.

The after-treatment was conducted as follows: (1.) The patient was well protected with flannel. (2.) Concentrated liquid nourishment was given hourly in such quantities as could be well borne. (3.) Opium was taken sufficiently often to allay undue irritability. (4.) Tinct. ferri chloridi was administered in whisky every six hours, and lager beer was allowed *ad libitum.*

During the eight days following the operation the pulse ranged from 136 to 140, and the temperature from 98° to 99°. Upon the ninth and tenth days, after exposure to cold at night, the temperature rose to 100.6° and 101.4° respectively. It then fell to the normal point, above which it did not again rise. Appetite and strength steadily improved. Cough was at no time marked.

September 8th, twenty-eight days after aspiration of chest, the condition of the patient was the following: color good; respiration easy and regular; bowels open; appetite good; no cough; tongue clean; pulse 100; temperature 98.4°.

The left side was somewhat flattened and not so free in its movements as the right. The percussion sound was a little tympanitic. The respiration and vocal resonance were fainter than on the right side, but of good quality, and heard to the base of the chest. There were no râles or friction sounds. The heart beat in the normal position.

At date of writing, February 16, 1878, the child is in the enjoyment of perfect health, and exhibits no sign of his former disease.

These cases illustrate the success which may attend the surgical treatment of empyema, even when the circumstances before operation are such as to render the prognosis unfavorable or very doubtful. Both of these patients were in an extremely wretched condition, so that no opinion as to prognosis could be ventured at the time of the aspiration of the chest. In Case II. the operation was urged as giving only a chance of saving the life of the child, who was apparently moribund.

Noteworthy are the complete change within twenty-four hours in the character of the discharge and its subsequent scantiness in Case I.; the fact that the employment of aspiration alone, and that only once, was necessary in Case II.; and the rapid and complete recovery made in both.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.

BY D. H. HAYDEN, M. D.

Treatment of Intertrigo in Infants. — (Adolf Wertheimber, Munich.[1]) Intertrigo, which at the start and in its lower grades is a slight and insignificant disturbance, can in its further development and extension become a disease endangering the life of the child. As an evidence of the want of appreciation of its importance, and of correspondingly meagre directions to be found for its treatment, one need only consult the latest literature on the subject.

Intertrigo begins always as an erythema, a simple hyperæmia of the skin, caused by some chemical or mechanical irritant, such as an abnormal character of the fæces, decomposed urine, etc. (intertrigo of the nates and genitals), or by the continual contact and rubbing of two cutaneous surfaces opposed to each other (neck, behind the ears, axillæ, folds of the thigh, etc.). In these last cases, also, the chemical element plays a more important part than the mechanical, since here it is not so much a question of rubbing as of the irritating effect of decomposed secretions, principally of a fatty character, the sebaceous glands being much more active in infant life than the sweat glands.

When the action of the above-mentioned irritants continues for a certain length of time, the simple erythema, which itself is accompanied neither by exudation nor exfoliation of the epidermis, under a gradual softening of the latter goes into the diffuse erythematous dermatitis, the affected portion of the skin becoming highly red, excoriated, and moistened with the exuding serum. It is only where the infant is in a cachectic state, or is placed under the most unfavorable external conditions, that it comes to the formation of a diphtheritic membrane on the excoriated places, or to the transformation into gangrenous ulcers. One such instance only had the author seen, — an infant, prematurely born, four and one half months old, with a hernia inguinalis of the right side, at which spot an intertrigo had been started from wearing a truss. One spot in the lumbar region, owing to continued pressure, developed into a gangrene. The slough, on coming away later, left behind a deep ulcer, which subsequently healed under proper local treatment, the infant being nourished by the breast of its healthy mother.

Of great importance, in a practical point of view, is the disposition of the disease in question to extend over large surfaces, and herein lies its significance and danger. It is not unfrequent to meet with cases where, starting in the folds of the neck, it is found to have extended upwards to the angle of the jaws and downwards as far as the middle of the sternum. When the intertrigo starts from the neighborhood of the anus it is prone to take on a wandering character, and can thus give rise to various local as well as general disturbances of a serious nature.

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[1] Deutsches Archiv für klinische Medicin, Band ii., Heft 2 and 3, 1878.

The widely accepted theory that the severe grades of intertrigo are confined almost exclusively to the poorer classes, and are due to the want of proper care, does not coincide with the author's experience, for he has often seen the disease in its worst forms in families where all the surroundings were favorable to health, and where the greatest care had been taken of the children with regard to cleanliness, though not always understandingly and in the right way. The skin of some children possesses an abnormal vulnerability, so that the slightest irritation can produce an erythema, which, once existing, rapidly extends. In a few cases the author has seen an intertrigo on the lower portion of the body followed by an erythema papulatum over the whole trunk, which after a few days would disappear. It is not rare to see ecthyma pustules spring up in the neighborhood of an erythematous eruption, terminating in superficial ulcers. In one case, an infant five months old, with acquired syphilis, an intertrigo on the inner surfaces of both thighs was the principal and nearly the exclusive seat of plaques muqueuses.

The treatment has for its duty to remove the exciting cause, and to heal as quickly as possible the cutaneous eruption.

With regard to the first indication, when the intertrigo is situated in the neighborhood of the anus, attention must be directed primarily to the character of the stools, which must be restored to their normal condition when found deranged and irritating.

When the child is brought up in part or exclusively with artificial food, the procuring of good fresh cow's milk, with attention to its proper dilution and to the "emulsionizing" of the caseine, is often sufficient of itself to improve the faulty digestion and assimilation; and for this purpose the author has found best adapted to infants in the first two months of life one part milk and three parts barley water. Between two and five months of age the proportion is increased to one part milk to two of barley water, and later to equal parts of the two. When the stools are thin and of acid smell he employs daily two or three times the following powder: —

℞ Calcis precipitat.	gr. iss.
Bismuth. subnitrat.	gr. i.
Sacchari albi	gr. iij. M.

In other cases, where the discharges have a less serous character, and are characterized rather by abundant yellowish-white flakes of caseine, minute doses of muriatic acid produce better results. The fact, however, still remains that many cases will be found rebellious to every treatment, and recovery will be effected only by the employment of a wet-nurse. Great care must be taken to remove wet diapers, and to insure the under-clothing's being always dry. It is better in washing the folds of the skin — the favorite seat of intertrigo — to use lukewarm soap and water, as this removes more easily than cold water the accumulated fatty secretions.

Powders should be used locally only when the epidermis is sound; otherwise they are injurious by adhering to the secretions and forming crusts, which act as foreign bodies and increase irritation. The sporules of the lycopodium, owing to their oily nature, are preferable to the different amylaceous powders. Still better is an admixture of semen lycopodii with finely powdered subnitrate of bismuth or oxide of zinc.

Whenever the intertrigo is so advanced as to present moist excoriations, a different treatment should be immediately adopted. The author strongly disapproves of the use of the so-called "drying salves" prepared with animal fats, such as the zinc and lead ointments, and attributes the severity of many cases that have come under his care to the injurious effects of their long and lavish use. A decided preference is expressed for the unguentum diachyli of Hebra, and its employment in fresh cases is generally satisfactory. In other cases it fails, and the author has of late employed, in severe forms of the disease, a remedy that has completely fulfilled every expectation, namely, corrosive sublimate.

His method of using this latter remedy is very simple. The solution employed is: —

℞ Hydrarg. chlor. corrosiv.	0.05	
Aquæ destillatæ	100	M.

(About one grain to four ounces of water.)

Pieces of lint are soaked in this solution and laid upon the diseased surface. It often suffices to apply the solution in this manner three or four times a day for an hour at a time, and it is rare that the application must be continuous. According to the author the action of this remedy is "an astoundingly favorable and rapid one." Within a few days, not rarely in from twenty-four to thirty-six hours, the dark redness and exudation disappear, and the affected skin becomes painless and dry, regeneration of the epidermis taking place in a very short time. The author has never observed any injurious effects from the absorption of the mercury, although he has often applied the solution over large surfaces. If the possibility of such absorption is borne in mind, the danger in these cases will always be small, owing to the short time that treatment is ever required, the rapidly re-forming epidermis impeding the absorption. When recovery is well under way the author is accustomed for a short time to employ the unguentum diachyli to prevent relapses. All doubts as to the existence of congenital syphilis must be excluded.

When the intertrigo becomes diphtheritic or gangrenous an antiseptic treatment must naturally be resorted to.

Scarlatina.[1] — At the meeting of the Berlin Medical Society held November 7, 1877, Herr Henoch enumerated the following as deviations from the normal fever type of scarlatina that are frequently met with : —

(1.) The evening fever sometimes continues for eight days after the eruption of the skin has faded away, without the existence of any ascertainable local causes, the fever curve acting similarly to that in the stadium intermittens of typhoid fever.

(2.) After a rapid increase of temperature at the beginning there sometimes ensues a condition of complete apyrexia, similar to what usually takes places in measles, while all the other symptoms continue to develop in the usual manner.

(3.) In one case Herr Henoch observed the typus inversus.

(4.) The fever is sometimes from the start remarkably light, in which case the other symptoms as a rule are of moderate severity. When the fever lasts abnormally long, complications are to be suspected. Of these the most prominent ones are inflammations of the ear or in its neighborhood (periostitis), and phlegmonous inflammations below the jaws. In the latter cases an interval of apyrexia usually precedes their onset.

Herr Henoch had lately had under his observation two cases of so-called relapsing scarlatina. In answer to a question by Herr Baginski if some of these described cases of relapses might not be in reality other exanthemata, which made their appearance in patients convalescing from scarlatina, and which were confounded with the latter, Herr Henoch replied that in some cases it did seem that the appearance of a new exanthema — as measles, rötheln, erythema — had been mistaken for scarlatina, and that in hospitals where the opportunities for contagion were abundant such mistakes could easily happen.

Herr Senator reported a case where there could seem to be no doubt of its being a true scarlatinal relapse. In the previous winter a child had been presented at the *poliklinik* of the Augusta Hospital having the characteristic desquamation and a slight œdema of the skin. According to the mother, fourteen days previously the child had had an eruption, accompanied by high fever, which had been pronounced by the attending physician to be scarlatina. At the time when seen by Herr Senator there was high fever. On the following day there appeared a well-marked eruption of scarlatinal erythema with pharyngitis. As the mother was ordered to keep the child at home a further observation was not possible.

In answer to Herr Lewin, Herr Henoch remarked that the appearance of articular rheumatism during scarlatina was not rare, and had been long known. In the majority of cases it is a synovitis ; and at the same time there are often inflammations of other serous membranes, as of the pleura and endocardium. The heart affection is often overlooked, and not discovered until later. Chorea, as is well known, sometimes befalls the patient, exactly as in acute rheumatism.

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[1] Berliner klinische Wochenschrift, No. 2, January 14, 1878.

Herr Perl asked if in the cases of relapse observed by Herr Henoch there was an enlargement of the spleen, which, according to Tojanowski, is found in such cases.

Herr Henoch replied that the spleen could not be felt in either case, and took the ground that such enlargement was to be diagnosticated with certainty only when the spleen was perceptible by palpation, and that percussion gave no indications that were to be relied on as accurate. He regarded, consequently, the statements as to a constant enlargement of the spleen in infectious diseases to be problematical. In answer to Herr Citron, if in his cases of relapse any medicine had been given, such as morphine or quinine, which could bring out an erythematous eruption resembling that of scarlatina, Herr Henoch answered in the negative.

The Systolic Cerebral Murmur of Children. — Dr. A. Turasz,[1] from numerous observations of his own upon children, both healthy and sick, as well as from anatomical measurements of the carotid canal, arrives at the following conclusions: —

(1.) This murmur is invariably intermittent, synchronous with the pulsations of the cerebral arteries, and is most frequently heard over the large fontanelle, or over the whole cranium, sometimes only in the temporal region (here generally of a somewhat higher pitch). It occurs only in children between three months and six years of age. Its existence is intimately connected with the development of the base of the skull, especially with that of the carotid canal, and probably, too, with that of the foramen spinosum.

(2.) The cause of the murmur is to be ascribed to the disproportion in size which at times exists between the internal carotid artery in its growth and the unyielding bony canal, the latter becoming partly obstructed until by the pressure of the blood a dilatation is effected. Up to about the sixth month there is no change in the size of this canal. It then begins to enlarge rapidly, so that by the third to the sixth year of life it has nearly reached the size which is found in the adult. The growth of the canal stands in exact relationship to the known changes that take place in the circumference of the skull in growing children. Similar changes take place in the enlargement of the foramen spinosum.

(3.) The cause of the cerebral murmur is consequently a physiological one, and stands in no immediate relationship to any pathological changes. In sixty-eight carefully observed cases it was found twenty-one times, without any difference caused by health or disease, existing in both sexes, and of varying degrees of strength. Variations in loudness are noticed in the same child at different times, and are very likely due to the changes in the force of the heart's beats.

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[1] Heidelberg. C. Winter. 1877. 8vo, 96 pages. Centralblatt für die medicinischen Wissenschaften, No. 50, December 15, 1877.

(4.) This murmur is therefore of no value as a means of diagnosis.

(*To be concluded.*)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

February 23, 1878. Seventy-three members were present, Dr. Homans the president, in the chair.

Ovarian Tumor treated by Electrolysis. — Dr. W. G. Wheeler reported a case of ovarian tumor treated by electrolysis, which will be published at length.

Dr. Wing thought that most of the successful cases of electrolysis of ovarian tumors were not well authenticated. This mode of treatment is not allowed as the cause of death, which in one instance was said to have been due to peritonitis, after electrolysis of a uterine fibroid.

Dr. Wheeler said that Dr. Semeleder had reported eight successful cases, that there had been three at Montreal, and a few others, but not enough as yet to admit of reliable conclusions. Still Dr. Wheeler thought that there was danger from the needles; not so great, however, as that which follows the escape of fluid into the peritonæum after tapping, an accident which was not likely to happen with the use of Kidder's insulated needles. He had applied these needles for five minutes in a case of hydrocele in an old gentleman who had previously been tapped five or six times annually. The action was similar to that of the injection of an astringent fluid. The sac did not refill.

Dr. Marcy reported a case of ovarian tumor treated by electrolysis, after the method advocated by Dr. Semeleder: —

Mrs. H., aged twenty-four, had had a slowly growing tumor of the left ovary under observation for a year prior to treatment. The tumor was thin-walled, reached to the umbilicus, extended to the right of the median line, and measured eight by eight and one half inches. The measurement at the umbilicus was twenty-eight and one half inches, and two inches below the umbilicus it measured thirty-one and one half inches. There was a distinct wave of fluctuation upon palpation, and the diagnosis was a unilocular ovarian cyst. Treatment commenced in January, 1877, and consisted of the use of a sixteen-cell battery of the Galvano-Faradic Co. This was kept in good order, would readily decompose water, and the brass button applied to the moist skin would immediately produce vesication. Only one needle was used, the other pole being applied externally over parts of the tumor. Each application was limited to ten minutes, and repeated twice a week. The size of the tumor diminished rapidly, the cyst became firmer, and fluctuation ceased after six or eight applications. At the end of six weeks the tumor was not larger than the doubled fist, was firm, and the needle entered with difficulty. Further use of electrolysis was suspended, because the small size of the remaining mass rendered the use of the needle dangerous.

Two months later the tumor was two thirds its original size, and increased by a soft, fluctuating cyst, enlarging from behind the one treated, which was clearly felt as a hard, firm, movable mass, just above the rami of the pubes.

Electrolysis was again used for about two months with a very similar result, when treatment was suspended for a similar reason. Two months later Dr. Marcy found the patient under the care of an irregular practitioner, who gave no hope of cure until by external applications the hardened mass could be softened. This Dr. Marcy understood had very effectually taken place, and that the patient was awaiting excision, to be performed by a member of this society.

Dr. Wheeler inquired whether the patient experienced much pain after the use of the needles.

Dr. Marcy said that there was very little if any; once or twice a slight inflammation of the abdominal surface at the seat of puncture.

Dr. Wheeler had noticed in one instance, after puncture, considerable irritability of the bladder, which sometimes required an opiate. In five cases of uterine fibroids electrolysis caused so much pain that ether was required. The passage of a large quantity of limpid urine was thought to be due to the action on the nervous system.

Development of the Eye. — Dr. D. Hunt read a paper on the Development of the Eye, as a preface to a new hypothesis as to the causation of myopia, to be presented at the next meeting.

Color-Blindness. — Dr. Jeffries read a paper on Color-Blindness and its Incurability, which was published in the Journal of March 28th.

Atomizing Apparatus. — Dr. De Beer showed an apparatus for administering steam baths, applying antiseptics, etc.

Injury of the Abdomen. — Dr. Weeks presented to the museum a pitchfork handle which had inflicted a curious injury. Dr. William H. Bragdon, of North Conway, had sent the following description of the case: The patient, while sliding from the top of a load of hay, impaled himself upon the sharp-pointed handle of the pitchfork, which was sticking upright into the floor below. It entered the scrotum, and passing in front of the pubic bone went upward in the abdominal wall to the umbilicus. The handle was said to have been withdrawn "from the bowels," and the patient drove home, a distance of two miles. The medical attendant on arriving could find a slight wound only at the lower part of the scrotum, which had contracted so much that a probe would not pass, and it was not thought possible that the handle had penetrated the abdominal wall, as was stated. But in a few days, although the external wound was almost closed, a swollen, fluctuating ridge appeared, extending from the pubes to the umbilicus, and after several attempts a probe was passed through the scrotum into the tract, in front of the pubic bone, between the abdominal muscles as high as the umbilicus and about two inches to the right. A large quantity of fœtid pus escaped, and the patient made a good recovery in four weeks. The points of interest were the obscurity of the diagnosis and the fact that the handle did not enter the abdominal cavity.

Anal Speculum. — Dr. Ordway showed an improved anal speculum.

MONTREAL GENERAL HOSPITAL.[1]

This little volume contains the records of a considerable number of autopsies, most of which were made at the Montreal General Hospital, together with such remarks as the editor has seen fit to include.

Dr. Osler's skill and learning as a pathologist are already well known from the various papers which have appeared from time to time under his name. His special training has evidently been largely obtained in Germany, and the thoroughness, objectivity, and system which characterize his records are sufficient evidence that the training has found an apt pupil.

The cases are grouped together under the various systems, osseous, circulatory, respiratory, etc., the anatomical diagnosis being concisely expressed at the beginning of each report. A few of the more interesting ones will be merely alluded to, as a suggestion of what may be found in the volume.

Of late years a very considerable degree of interest has been aroused by the reports of cases of over-strain of the heart. The serious nature of the cardiac lesions which may occur under such circumstances is suggested by the hypertrophy and dilatation of the heart in Case XLIV., without any valvular or other mechanical lesion which could be considered as explanatory. Advanced fatty degeneration apparently ensued, and seemed the most probable immediate cause of the fatal result. Further particulars concerning this case are promised at some subsequent period.

A somewhat famous case of aneurism of the hepatic artery with multiple abscesses of the liver attracts the eye, and a drawing of the aneurism forms the frontispiece to the book. A full account of the clinical features of the case has been published by Dr. Ross, under whose care the patient was.

Dr. Osler enters into an extended explanation of the origin of the abscesses, and their relation to the aneurism, regarding them as essentially due to anæmic necrosis, either through embolic or more gradual obliteration of branches of the hepatic artery.

Case LXI. is reported as one of ossification of the mucous membrane of the trachea. The description suggests that this may have been an instance of perichondritis of the tracheal rings with subsequent calcification, a condition sometimes met with. The lack of any statement of a histological examination permits the reader to doubt whether the diagnosis is sufficiently accurate to enable the record to be made of any further use.

An enlarged liver, weighing nearly seven pounds, is spoken of as a specimen of hypertrophic cirrhosis, and is regarded as quite distinct from the hitherto described cases of enlargement of the liver in the early stages of chronic interstitial hepatitis. Whether any essential distinction between the enlarged and atrophic forms of cirrhosis can be deduced from the histological appearances may be considered as still an open question. The absence of ascites, with the abundant growth of fibrous tissue, is of interest in connection with the possibility of the early recognition of the lesion. Death resulted from erysipelas.

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[1] *Pathological Report for the Year ending May* 1, 1877. By William Osler, M. D. Vol. I. Pp. 97.

A very remarkable series of lesions is recorded as the apparent sequelæ of typhoid fever: extensive abscesses in the mesentery, suppuration of the portal vein, empyema, miliary tuberculosis of the lungs, amyloid degeneration of the spleen, liver, and intestine, together with perforation of the vermiform appendage and peritonitis, — a veritable mine of pathological ore. Dr. Osler justly calls attention to the difficulty of grasping the first link of the chain, — a difficulty enhanced by the absence of any sufficient clinical history. At the same time he very judiciously sums up the probabilities.

Two cases of pernicious anæmia close this instructive volume. These also are somewhat familiar to journal readers, as they have appeared from time to time in full or as abstracts since their first appearance.

It may be remembered that Dr. Osler, in connection with Dr. Gardner, made some very interesting researches into the condition of the bone-marrow in one of these cases, and published them in Germany soon after Cohnheim had presented his observations. The latter were thus early confirmed, if not almost simultaneously made. The interesting statement is also presented that Charcot's crystals always occur in the marrow from twelve to thirty-six hours after death. If this generalization proves true it indicates how little diagnostic importance is to be attributed to the formation of these octahedra in connection with any special disease.

"The first pathological report from a Canadian hospital" deserves to have many successors and rivals. If not the first in point of time from an American hospital, all must agree in giving it priority on account of excellence.

R. H. F.

DELAFIELD'S PATHOLOGY.[1]

The two numbers before us comprise the beginning and the end of the inflammations of the pleura. The author gives the following forms: (1.) Pleurisy with the production of fibrine alone. Dry pleurisy. Acute pleurisy. (2.) Pleurisy with the production of fibrine and serum. Subacute pleurisy. (3.) Pleurisy with pus. Empyema. (4.) Dropsical effusion. Hydrothorax. (5.) Chronic pleurisy with permanent adhesions. (6.) Pleurisy of pulmonary phthisis. (7.) Tubercular pleurisy.

As autopsies give but very insufficient opportunities for the study of the early stages of inflammation, Dr. Delafield has had recourse to the lower animals, and has injected the pleural cavity of dogs with chloride of zinc. We are ready to admit that by this method the progress of pleurisy depending on mechanical injury, as fracture of ribs, can be imitated, but we are not aware whether the early steps of an inflammation due to exposure to cold can be reproduced in this way. The successive processes are well described, and the plates give good representations of the new endothelial and connective-tissue cells that appear.

Dropsical effusions into the pleura are not originally due to inflammations of it, but the author shows that changes occur in the cells of the pleura, which no doubt are of an inflammatory nature. The changes in the old cells and the appearance of the new ones are well shown in Plate XVI.

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[1] *Studies in Pathological Anatomy.* By Francis Delafield, M. D. New York: Wm. Wood & Co. Nos. 3 and 5. 1878.

There is one form of pleurisy which Dr. Delafield finds only in chronic phthisis. In his own words, "The peculiarity of this inflammation is this: that the production of fibrine and of new tissue seems to go on simultaneously. There is not, as in ordinary pleurisy, first a production of fibrine and then a formation of new tissue and a disappearance of fibrine. But these two processes are repeated over and over again, so that the layer on the surface of the pleura gives us an inextricable confusion of fibrine, of blood-vessels, and of new connective tissue in different stages of growth." He pertinently asks whether many of the subcrepitant râles heard in this disease may not be produced by the rubbing of the two thickened and roughened surfaces against one another, as they are adherent only in places.

THE SCIENCE OF FRENCH CONJUGATION.[1]

This is the title of a pamphlet of forty pages, by Dr. Edward F. Williams, devoted to the study of French verbs based on their analogy to the Latin. This little book is a new and valuable contribution to philology, of undoubted value to the advanced student in French, and ought to be of especial assistance to the medical man who, familiar with Latin, desires to read easily the language in which so many valuable contributions to medical science are published. The only drawback that we can see to its utility lies in the fact that most pupils learn their Latin, and also their French, not in the scientific way in which it ought to be studied, but acquire an ability to translate merely without paying much attention to philology; the real analysis of the language and the rules of formation from stems being acquired by comparatively few, the more earnest and thorough students. But in view of what ought to be rather than what is, this book is to be highly commended.

HUTCHINSON'S PLATES.[2]

The tenth fasciculus contains interesting illustrations of and remarks on pyæmia. Mr. Hutchinson has several suggestions to offer in regard to the character and some of the different phases of the disease, which add greatly to the value of what he has to say upon the subject. His views of the relation of so-called "external pyæmia" or multiple abscesses of the cellular tissue and multiple acute periostitis to pyæmia are interesting and suggestive. There are also some examples of gun-shot fractures. This fasciculus closes the first volume, and we are glad to learn that such has been the success of the work thus far that the author is encouraged to complete another volume of similar size.

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[1] *The Science of French Conjugation.* By Dr. Edward F. Williams. Published and for sale by Lockwood, Brooks & Co., Boston.

[2] *Illustrations of Clinical Surgery.* Fasciculus X. By Jonathan Hutchinson, F. R. C. S. Philadelphia: Lindsay and Blakiston. 1878.

THE INTERNATIONAL CONGRESS OF HYGIENE.

As did Philadelphia two years ago, so is Paris this summer availing herself of the concourse of distinguished men already within her borders, and of the attractions which she offers to people in all parts of the world, to hold congresses for the discussion of subjects which have an importance and interest for civilized man wherever he may be found. These meetings for the comparison of views formed amid varying surroundings, and the formation of acquaintances between men interested in similar subjects in different quarters of the globe, have become a very valuable adjunct of great exhibitions.

From among such meetings the International Congress of Hygiene, which is to commence its sittings the first of August, will have a great value for the community at large and for members of the medical profession, and a peculiar claim upon their consideration. The congress has hardly excited the attention in this country which it deserves; we could have wished that greater pains had been taken to give it publicity, and that invitations to attend it had been more freely extended. Much has been done to secure the attendance of those most prominent in matters pertaining to hygiene throughout Europe and Great Britain. We are happy to say that Massachusetts will be represented by the able secretary of her State Board of Health, and some other States have sent representatives.

The plan has been adopted at this congress not only of announcing beforehand certain subjects for discussion, but also of publishing and distributing a month before the meeting the opening papers prepared at the request of the organizing committee upon the subjects appointed by it. Those attending the congress will thus have the advantage of knowing not only the subject for discussion on any given day, but also the line upon which the debate will probably become engaged, and both the want of preparation upon certain points and the forcing doors already open, as our French friends express it, may be avoided.

The six subjects, or groups of subjects, proposed for discussion by the organizing committee are the following: (1.) Infant mortality. (2.) Pollution of water-courses, utilization of sewage, etc. (3.) Food and its adulteration. (4.) The dwellings of the poor. (5.) Injurious trades and industries. (6.) Infectious diseases. These will be submitted at the afternoon meetings. The morning hours are to be devoted to such questions as the members present may wish to bring up. The six groups of subjects proposed by the committee cover a very large field, and in regard to most all of them much is to be learned from the French, both as to what to do and what to avoid. In regard to the first three groups they have especially much to teach from which we may profit.

Men of various professions will be in attendance, — architects and engineers, as well as physicians and hygienists, so called. Some definite addition to our knowledge can hardly fail to come from such an assemblage. An international code of hygiene is certainly no less important than an international code of law: may this congress bring us a step nearer to it.

MEDICAL NOTES.

— The Boston Medical Library has recently received the library of the late Dr. Edward Warren, of Boston, consisting of two hundred bound volumes and six hundred valuable pamphlets.

— A paper in *New Remedies* On our Present Knowledge of the Cinchona Alkaloids describes no less than twenty-six which have been already discovered.

— The *Medical Examiner* publishes the following note relative to "Local Morbid Temperature:" —

By this expression Professor Peter desires to indicate the connection which exists between some internal diseases and the changes of temperature in parts superjacent to the diseased structures. He employs the common medical thermometer, because he desires to bring the control of his experiments more readily under all classes of practitioners. This new application of physical phenomena to the diagnosis of internal disease is illustrated by the use of the thermometer in cases of pleurisy, incipient phthisis, and some obscure abdominal affections. Thus, M. Peter's carefully recorded experiments show that in pleurisy limited to one side the temperature of the skin over the diseased side of the chest is invariably higher than the general temperature of the body. The local hyperthermia always amounts to half a degree (centigr.), and may in some cases reach five degrees. The skin is also warmer over the unaffected side of the cavity; but the difference of temperature is always well marked. When effusion takes place into the cavity of the pleura the parietal heat increases proportionately until the effusion has reached its maximum. It is not to be inferred from this that no augmentation of temperature takes place on the side free from effusion, but simply that a constant difference exists between the two sides of the chest. In proportion as the effused fluid is absorbed, so does the heat of the skin on the same side diminish. It is, however, important to remark that increased heat on the affected side persists for some time, thus indicating the possible occurrence of relapse. The secretory arteries in the interior of the cavity have not returned to their normal state, and thus an anatomical condition favorable to effusion persists.

— *L'Union médicale* gives an interesting description of a Chinese wine, which is manufactured by adding to water a certain quantity of a powder, or a sort of cake, made by pulverizing oats, barley, or rye, alone or together, with the addition, after they have been exposed to a degree of fermentation, of aromatic herbs. It is an alcohol rather than a wine, and is consumed by the Chinese in large quantities.

— Tafain, an Italian histologist, recommends a new coloring agent. He takes a saturated solution of aniline blue, another of picric acid, and mixes them in the proportion of four parts of the former to one hundred of the latter. With this mixture he stains his microscopic preparations, obtaining a beautiful green tint, which he considers very advantageous.

— The *Journal of Inebriety* mentions two cases in which dipsomania was caused by tape-worm. So soon as the animal was dislodged all craving for alcohol disappeared.

— A new periodical under the name *Archiv für Geschichte der Medicin und medicinische Geographie*, has appeared in Germany. The first number contains an article by Dr. Bass, and dedicated to the third centenary of William Harvey.

BOSTON LYING-IN HOSPITAL.

SERVICE OF DR. W. L. RICHARDSON.

[REPORTED BY DR. J. B. SWIFT, HOUSE PHYSICIAN.]

Chorea of Pregnancy. — M. C., single, twenty-three, primipara, entered the hospital May 16th to await confinement, with the following history: when a child she was greatly frightened at being lifted up to kiss a corpse, and was immediately seized with a universal chorea. This continued in spite of treatment, being at times so severe that she had to be fed. When fourteen years of age the catamenia appeared, and the chorea rapidly subsided, finally disappearing entirely. Last September she became pregnant, and in November noticed that the chorea was returning. As pregnancy advanced the choreic movements increased, though they were confined chiefly to the left side of the body, and were especially noticeable in the left arm. On her entrance to the hospital the nervous symptoms above described were very marked. The heart's action was irregular. Labor began the evening of May 21st. The twitchings were very much increased, especially during the pains, which were not very strong or frequent. During the second stage the progress of the labor became slower, and the pains were feeble. Five grains of the sulphate of cinchonidia were given, soon after which the pains increased in strength, and the labor was rapidly terminated. She was delivered of a male child at ten A. M. on May 22d, and at one P. M. all signs of the chorea had disappeared, except a slight twitching of the little finger of the left hand, which passed off the next day. The heart's action was now regular.

May 24th the confinement of a woman in the next bed excited her somewhat, and the chorea returned in the left arm. She was given twenty grains of bromide of potassium, which quieted her, and the nervous symptoms ceased.

May 26th. Report reads, "Has no choreic movements except when nervous or excited."

June 2d. Sat up for the first time. No sign of chorea; heart's action regular. The child had marked hypospadias.

Two other cases very similar to the above have occurred at the hospital. A report of them may be found in the JOURNAL of July 12, 1877. In all three the choreic symptoms were intensified during the labor, and in all the chorea ceased soon after the birth of the child. In this case various remedies were tried during the pregnancy with a view of relieving the chorea, but with no lasting effect. Chloral at one time and valerianate of zinc at another apparently afforded a slight temporary relief; but the effect was only for a few days, at the end of which time the nervous symptoms would return as bad as ever. At the period of quickening there seemed to be such a decided improvement in the chorea for about ten days that it was thought possible that it might be going to leave her entirely. The remission was, however, only temporary.

Ante-Partum Hæmorrhage; Low Attachment of Placenta; High Forceps; Puerperal Fever; Death. — April 5th. A. L., nineteen, single, seven months pregnant with her first child, entered the hospital. Says that yesterday afternoon without any apparent cause she commenced flowing. She had had no pain; the discharge was pure blood, about a teacupful in amount. This morning she had come about forty miles in the cars, and the flowing had returned, but not so much as yesterday. Examination per vaginam showed the cervix still present, though soft, the external os admitting the tip of the finger; head felt presenting. Nothing like placental tissue could be felt through the walls of the uterus. Rest in bed ordered.

April 6th. There has been no flowing since entrance, but there is a very offensive, purulent discharge from the vagina. Warm carbolized vaginal douches ordered.

April 7th. No discharge. Says she feels perfectly well. The next day she returned home to await labor pains.

May 15th. Reëntered, as she did not care to remain at home. Has had no return of the flowing or discharge.

May 19th. At 11.30 A. M., while lying on her bed, she suddenly commenced flowing, without any apparent cause. Examination showed the vagina filled with clots, the os about the size of a quarter dollar, the head presenting, and very little liquor amnii. The finger, passed through the os, detected the edge of the placenta low down on the posterior side of the cervix. Pulse 88, of good character. She was ordered to remain quiet in bed. 1.30 P. M. The flowing has increased and labor pains have come on. Os about the same size as at previous examination. The urine was drawn with a catheter, and a colpeurynter was introduced, which checked the hæmorrhage and caused the pains to increase in force and frequency. 2.15. P. M. The colpeurynter was removed, the patient etherized, the os dilated by hand, the membranes ruptured, the long forceps applied inside the uterus, and the labor terminated. The placenta was expressed by Credé's method. Perinæum intact. There was considerable post-partum hæmorrhage. Friction over abdomen with hand, ice-water douche, and ice to vulva soon produced firm uterine contraction. The patient came out of the ether well, and was given a drachm of the fluid extract of ergot. This being vomited, another dose was given per rectum. The baby did not breathe, but artificial respiration, rubbing the body with alcohol, and hot and cold baths in about half an hour caused lively movements and loud cries.

An examination of the placenta showed the following state of things: there was the placental mass of ordinary size, and extending from this a small mass of placental tissue consisting of five distinct lobes, which were arranged in a pyramidal form, the apex being down. This was attached just inside the os.

May 20th. A. M., pulse 112; temperature 101°. The patient passed a comfortable night, and reports herself feeling nicely. P. M., pulse 130; temperature 102°. Lochia offensive. Carbolized douches were ordered. Sulph. cinchonidiæ grs. v. every two hours for three doses.

May 21st. A. M., pulse 116; temperature 102°. Abdomen tender. Poultice applied over the abdomen. Sulph. cinchonidiæ grs. v. every four hours. P. M., pulse 118; temperature 101.5° Tinnitus aurium. Cinchonidia omitted.

May 22d. A. M., pulse 125 ; temperature 102.° P. M., pulse 130 ; temperature 101°. Diarrhœa. Ol. ricini, half an ounce, was ordered.

May 23d. A. M., pulse 132 ; temperature 100.5°. No milk in breasts. Lochia normal. Abdomen tender and tympanitic. Turpentine stupes. A turpentine enema caused a large fæcal dejection. Pil. quin. sulph. grs. ii. every three hours. Diet, milk and lime-water, with a drachm of brandy every hour. Abdominal poultices. P. M., pulse 132 ; temperature 100° (axilla). Lochia offensive. Considerable nausea after food. Breath has a sweetish odor. Nutritive enemata. Complete isolation with separate nurses, syringes, etc. 10.30 P. M. Nausea continues, with retching. Morph. sulph. one eighth of a grain hypodermically over stomach checked the retching.

May 24th. 5.30 A. M. The patient has been quite comfortable all night, though she has not slept any. Vomiting has returned, the vomitus being black. Morph. sulph. one eighth grain subcutaneously again checked it. Since 2.30 she has had five dejections. Pulse 160, feeble. From this time she gradually failed, and at 8.40 A. M. died. No autopsy.

The child left the hospital May 27th, well, but was reported to have died of convulsions a week later.

Epilepsy. — E. B., married, twenty, entered the hospital in advanced labor with the second child the evening of May 23d, and within an hour was delivered of a male infant, so that her previous history was not obtained. The bladder being empty, the urine could not be examined. The labor was easy and the patient passed a comfortable night. The next morning she complained of severe after-pains, for which she received twenty drops of the fluid extract of ergot with ten drops of laudanum every two hours until relieved. At 2.45 that afternoon she asked for the bed-pan, as she desired to pass her urine. While on the bed-pan she was seized with a convulsion. Ether was immediately administered, and a drachm of the fluid extract of jaborandi given per rectum, which in twenty minutes was followed by profuse diaphoresis. About two ounces of urine were drawn with a catheter, and examined with the following result: faintly acid, light colored, specific gravity 1008 ; albumen one fourth per cent. ; pus ; no casts. Ether was stopped, and as soon as the patient could swallow she was given potas. brom. grs. xx., chloral hydrate grs. xv., morph. sulph. one sixth grain, with digitalis fomentations over the kidneys. She soon vomited, and in half an hour the medicine was repeated. This again seemed to act as an emetic, and the patient immediately vomited a large amount of yellowish frothy fluid. She came out of the ether well, was conscious, answered questions, and extended either hand when asked to. She turned in bed of her own accord, and complained of severe headache.

On inquiry it was learned that at noon she had passed about three pints of urine, and in the bed-pan, which was under her at the time of the convulsion, thirteen ounces of urine were found, which was not examined, as it was mixed with lochia. She was ordered twenty grains of the bromide of potassium every four hours, the urine to be drawn and measured every six hours. At midnight the urine was drawn ; twelve ounces, acid, specific gravity 1018 : traces of albumen ; small amount of pus and blood.

May 25th. Six A. M. Urine, nineteen ounces, acid, specific gravity 1014 ;

no albumen. The husband was called last night, and stated that she always had had good health, so far as he knows, except that on two or three occasions she had had a kind of fit, which she soon got over.

The bromide was continued for four days, and then reduced to twenty grains, three times a day.

On May 30th she had an attack of subacute cystitis, which soon passed off. The patient says that she has always been well. When she was fifteen years old her catamenia first appeared, and soon after this she had a "fainting spell" one morning soon after rising, and thinks that she was unconscious about five minutes. Since then she has had several similar attacks. They have all come on just after waking from a sleep, and are followed by a severe headache. During her first pregnancy she had no trouble, but while carrying this child, when seven months along, she says that she had a fit similar to this last one.

Her convalescence since has been uninterrupted, and she left the hospital June 6th, well.

That the convulsion in this case was of epileptic origin was determined from the examination of the urine taken in connection with the quantity passed just before and soon after the attack. The subsequent headache and characteristic stupor also served as guides in forming the diagnosis, which was subsequently confirmed by the patient's past history.

SHORT COMMUNICATIONS.

A CASE OF TRAUMATIC ANOSMIA AND AGEUSIA, WITH PARTIAL LOSS OF HEARING AND SIGHT; RECOVERY IN SIX WEEKS.[1]

BY T. M. ROTCH, M. D.

D. N., a laborer, aged fifty years, while wheeling sand from the hold of a ship fell from a staging, a height of fifteen feet, on to a hard cemented wharf, striking on the left side of his head. According to the report of his daughter, a girl of a good deal of intelligence, there was no cut on his head, but the scalp was much swollen, and his left eye was entirely closed by the swelling caused by the blow on the left side of his face. He vomited a considerable quantity of blood soon after the accident, and has since continued to spit blood; just after he was put to bed, on being carried home, blood was noticed to trickle from his right ear.

October 27th. I first saw the patient eighteen days after the injury, he having been confined to his bed by his bruises up to that date. He is a well-built, intelligent man; mind perfectly clear. His parents were healthy, and he himself has always been well and strong, with the exception of an attack of typhoid fever and rheumatism some years ago. He gives no history of syphilis or of nasal catarrh in either the acute or chronic form. Previous to his fall his senses of taste and smell were, so far as he knows, perfect. He has always been able to see and hear well. Since his fall he has been unable to taste or smell anything; has noticed that his hearing was affected; for some days he could not see objects distinctly, and now cannot see to read. He has had no paralysis. Epistaxis was quite frequent, and always from the left nostril. At times he spits up dark clotted blood. Since the accident he has been drowsy and stupid, but is gradually getting brighter. At present he suffers from great soreness all over his head, especially at the base of the skull behind and at the sides, so that any movement of the head is quite painful, the neck being kept straight and stiff. Pulse and temperature normal. Appetite poor. Bowels regular. Sleeps well. An examination of the head showed that the blow was in the region of the anterior superior angle of the left parietal bone, extending down the anterior border of the bone for about one and a half inches. Percussion and auscultation revealed nothing abnormal about the chest, the blood which he raised apparently coming from the posterior nares. The patient is able to walk, but his head feels light and dizzy. His eyes being closed, a drop of vinegar was placed on his tongue; he knew that something was on his tongue, but he was unable to say whether it was sour or sweet. In like manner he failed to recognize a saturated solution of sugar. He could tell the difference between heat and cold on his tongue, and the difference in feeling between the finger and a spoon.

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[1] Read before the Boston Society for Medical Observation.

October 29th. Two days later, the nose was examined with the following results: There was no deviation of the septum; the mucous membrane of the septum and middle turbinated bones was somewhat reddened and swollen, especially on the left side, where in the region of the middle turbinated bone a small clot of blood was noticed. The examination of the posterior nares was found to be almost impossible, as the patient was unable to open his mouth wide, the jaw being stiff; nothing abnormal was detected. The sound was not passed, for fear of renewing the epistaxis. With the left nostril the patient was unable to perceive tincture of assafœtida, oil of wintergreen, oil of peppermint, or sulphuric ether, even when introduced well into the nose. The right nostril could not perceive assafœtida, oil of wintergreen, or sulphuric ether, but the oil of peppermint produced a sensation; that is, he felt something in the nostril, but he could not say that it was a smell. The expressed juice of an onion placed on the tongue merely gave a tactile sensation; no flavor whatever was noticed. Sugar felt a little cold; salt was not recognized, even when he was told what it was. He states that he cannot distinguish one kind of food from another, and that, in fact, his food has no taste whatever.

October 30th. The left nostril failed to recognize assafœtida, oil of wintergreen, oil of peppermint, or sulphuric ether, but recognized for an instant ammonia, which caused him great satisfaction; the right nostril also perceived the ammonia, while the sulphuric ether and oil of peppermint produced an indefinite sensation, but no smell. Assafœtida and oil of wintergreen produced no sensation whatever. Onion juice, salt, and sugar were not distinguished. Vinegar had for an instant a slightly sour taste, but he could not recognize it as vinegar. Sulphate of quinine for an instant tasted slightly bitter.

Examination of the ears gave the following results: The tuning-fork carried from side to side was heard best in the left ear; placed on the vertex of the skull it was heard most clearly in the right ear. The watch could be heard two inches from the right ear, three and a half inches from the left ear. The voice was heard well with the left ear, not clearly with the right; there was considerable sebum in both ears, so as to mask the membrana tympani. The right ear was syringed, when the membrana tympani was found to be cloudy and thickened in its lower two thirds, while its upper third and the head of the malleus were much reddened, giving the appearance of an ecchymosis. The tuning-fork could now be best heard in the right ear, while on the vertex of the skull it was most clearly perceived in the left ear; on syringing the left ear, however, the same difference was noticed as before syringing either ear, the left hearing much better than the right. The watch could now be heard at the distance of four inches from the right ear, and the patient expressed himself as much relieved from the heavy, dull feeling which he had had in his ear.

Examination of the eyes. The patient has always been somewhat hypermetropic, but has been able, so far as he knows, to see as well with his left eye as with his right; has never had any pain in his eyes. For some days after his injury he was unable to distinguish objects with his left eye, but can now do so pretty well; but cannot read print of moderate size with this eye, although he can do so with his right eye when the book is held at a distance of twelve inches. The fundus of the right eye presented nothing abnormal. A physiological excavation was present. There appeared to be some redness and puffiness of the left optic disk; nothing else abnormal was noticed. From this time until November 11th the derangements of smell, taste, sight, and hearing continued to grow less, the patient becoming stronger under tonic treatment.

November 11th. Dr. C. H. Williams kindly examined the eyes, and reported that nothing abnormal was to be found, with the exception of their being hypermetropic; he explained the derangement of vision in the left eye by a disturbance of its accommodating power, caused by the blow on that side of the head.

The tuning-fork was now heard equally well in both ears; a whisper could be heard at a distance of three or four yards, and the ticking of a watch at twenty-four inches. The membrana tympani of both ears was normal, excepting that it was somewhat thickened.

November 12th. Forty-three days from the time of the injury, the patient comes to office, a distance of a mile. He states that when he first went out, nine days ago, he could not hear the rattle of the carts in the street as a distinct sound, but only, to use his own words, as a "dead rumble;" he now hears distinctly. He has had no more epistaxis, and has ceased to spit blood. Examination of the nose revealed nothing abnormal in the right nostril, some slight swelling in the left; he can distinguish equally well with both nostrils tincture of assafœtida, oil of wintergreen, oil of peppermint, sulphuric ether, and ammonia. Can taste his food; recognizes wine and salt, and says that vinegar tastes sour, but he does not know what it is. He is unable to taste or smell onion juice. The induced current of a Gaiffé battery was passed through the tongue and nose for five minutes, when, on again testing, it was found that he could both taste and smell the onion juice perfectly; and on trying him a month later, when he was well and working, he recognized the onion juice, and stated that he had been able to do so from the time of the application of the electricity.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending July 13, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77
New York.	1,093,171	741	35.24	23.42	28.71
Philadelphia.	876,118	428	25.40	18.80	21.54
Brooklyn.	549,438	309	29.24	21.51	25.50
Chicago.	460,000	226	25.55	17.83	22.39
Boston.	375,476	175	24.23	20.10	24.34
Providence.	100,000	49	25.48	18.81	19.20
Lowell.	55,798	29	27.03	19.09	22.50
Worcester.	54,937	16	15.15	14.07	22.30
Cambridge.	53,547	16	15.53	18.69	20.83
Fall River.	53,207	22	21.50	21.35	24.96
Lynn.	35,528	11	16.11	20.42	19.67
Springfield.	33,981	11	16.84	16.02	19.77
Salem.	27,140	10	19.16	20.38	21.15

Books and Pamphlets Received. — The Functions of the Anal Sphincters, so-called. By James R. Chadwick, M. D. (Reprint from Volume II., Gynæcological Transactions. 1877.)

Amputations and Excisions of the Cervix Uteri; their Indications and Methods. By J. Byrne, M. D., M. R. C. S. E., etc. (Reprint from Volume II. Gynæcological Transactions. 1878.)

Address to the Graduates of the Medical College of the State of South Carolina at the Annual Commencement, March 5, 1878. By C. Richardson Miles, one of the Trustees. Charleston, S. C. 1878.

Annual Announcement of the Medical College of South Carolina, 1878–79.

Cyclopædia of the Practice of Medicine. By Dr. H. von Ziemssen. Vol. XIII. Diseases of the Spinal Cord and Medulla Oblongata. By Professor Wilhelm Heinrich Erb, of Heidelberg, Baden. Translated. New York: William Wood & Co. 1878. (H. D. Brown & Co., 67 Cornhill, Boston, New England Agents.)

Neuralgia, and its Modern Therapeusis. By James B. Baird, M. D. Atlanta. (Reprint from the Transactions of the Medical Association of Georgia.)

Eleventh Annual Announcement of the Bennett Medical College, Chicago, Illinois, 1878–79.

Annual Announcement of the Department of Medicine and Surgery of the University of Michigan for 1878–79.

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CANCER OF THE TONSIL: REMOVAL OF THE TUMOR BY EXTERNAL INCISION. (A SECOND CASE.)

BY DAVID W. CHEEVER, M. D.,
Professor of Clinical Surgery in Harvard University, Surgeon to the Boston City Hospital.

In 1869 the writer removed a malignant tumor of the tonsil by cutting down on it from outside the neck and opening the pharynx. So far as he could then learn, the operation was original. Subsequently, several treatises on surgery, as Bryant's, Gross's, etc., sustained his belief that the operation had not been performed before. He now finds in the *Jahresbericht der Gesammten Medicin* for 1869 that Dr. Hueter says he saw Von Langenbeck operate externally, and by sawing the jaw, in 1865; and that he himself performed a similar operation, the same year. Both were cases of sarcoma; Langenbeck's recovered, Hueter's died. Neither of the cases had been published; so that, having never heard of the operation, the writer supposed himself the first to do it.

After an interval of nine years, a second case has presented itself, of apparently identical nature, and has been operated on by him in a similar manner. Novelty in the operation, together with the rarity of the disease, would seem to merit publication.

Primary cancer of the tonsil is so rare that Lebert out of 9118 cases of cancer gives only three of the tonsils; Sibley out of 520 cases of cancer only six; Baker out of 500 cases of cancer only two.

Baker states the average duration of life, when the disease is not operated on, as being twelve and a half months.

The modes of operating previously employed had been by burning inside the mouth; by the wire écraseur inside (Bryant); by cutting and the cautery inside (J. C. Warren); by cutting for the large vessels outside and holding them back with a retractor, and then using the écraseur inside (Demarquay); by passing a controlling ligature around the carotid and then using a wire loop inside (Velpeau); by strangling by slow tension with a wire inside (Warren). For a complete and exhaustive account of the disease and the operations consult Mr. Alfred Poland's article in the *British and Foreign Medico-Chirurgical Review*, April, 1872. We now pass to our case.

Case II. The patient was a strong farmer, over six feet tall, and thirty-seven years of age. Four months ago, for the first time, he began to be troubled with his throat on the right side, finding an obstruction there, which slowly increased. Within the last six weeks, however, he thinks the growth has been more rapid, and has caused him to talk thickly. Now, December 20, 1877, on the inside of the mouth the right tonsil seems to be much enlarged, bulging into the fauces; and on the outside, at the angle of the jaw, is a movable little body, not deep, and about the size of a large button.

Although it was probable that the enlargement of the tonsil was organic and malignant, and although there was neither the history nor any appearance of syphilis or scrofula, yet it was deemed best to treat the patient with specific remedies for ten days or a fortnight, and see if the tonsil diminished. He was ordered five grains of iodide of potassium four times a day.

December 29th. As the enlargement of the tonsil was increasing fast it was decided to operate. Omit former prescription. To have citrate of iron and quinine, six grains, four times daily.

January 4, 1878. At this date, fifteen days after entering the hospital, the bubo or lymphatic gland below the angle of the jaw had tripled in size and had lost its mobility. In the fauces the diseased tonsil passed beyond the vertical line of the uvula toward the left side of the throat, leaving a narrow fissure through which the patient swallowed and breathed. It had not infiltrated the palatine pillars. It was seamed with a hard ridge at the posterior border, but was not ulcerated.

Operation. The patient having been etherized, an incision was first made on the right side of the neck, beginning about two inches below the angle of the jaw and extending up to the lower border of the same. A diseased gland was taken out, about one and a half inches in the long diameter, by one inch in the short. Hæmorrhage was checked by ice and ligatures.

The incision was then continued at an obtuse angle forward over the lower jaw and some two inches on to the cheek beyond. The opening was enlarged by a cross-cut, two inches long, directly over the lower jaw, and at about right angles to the primary incision. The digastric triangle was now uncovered by dissection, and the styloid group of muscles drawn downward by a retractor. The tissues over the jaw were scraped away down to the bone, which was then partially divided with a saw, just in front of the masseter muscle, the division being completed with the bone forceps. Tracheotomy was next performed; and the pharynx separated from the trachea by a sponge over the glottis. The two pieces of the lower jaw were now everted, and held, the one upwards and inwards, the other upwards and outwards.

Next the mylo-hyoid muscle was cut away, and, the finger being passed into the throat, the tumor of the tonsil was pushed out towards the external wound, so that it was seen bulging and covered by the superior constrictor muscle of the pharynx only. A crucial incision, about one inch long each way, was made through the superior constrictor. The tumor now came in sight plainly. With the director, and with one finger outside and one inside the throat, the diseased mass was separated and removed without serious hæmorrhage. The palato-glossus muscle was divided where it adhered to the front of the growth. The palato-pharyngeus was untouched. No artery larger than the facial was divided. The subsequent perfect use of the parts proved that the hypoglossal, gustatory, and glosso-pharyngeal nerves were intact.

After removing the tonsil a large hole opened directly into the throat, beneath and below the jaw, and between the pillars of the fauces.

The sawn edges of the jaw were drilled and brought together with one wire, and silk sutures were taken in the upper part of the vertical cut of the skin, and in the cross-cut, the original incision being left open. A wet compress and bandage were applied. At no time was hæmorrhage excessive. Fourteen ligatures were used. The ends of these, with the ends of the wire, were left protruding through the wound.

Brandy one ounce, and beef essence four ounces, by the rectum, were ordered every four hours during the night; forty minims of liq. opii comp. being added at 7.30 P. M.

January 5th. Twenty-four hours after the operation the trachea tube was removed. Patient doing remarkably well. Has retained all injections but the first. No shock. Pulse good. Some slight oozing from the external wound. Patient drinks milk by single swallows, none of it passing through the wound, though the edges are separated by the passage of air. Injections to be omitted, and milk, beef tea, etc., to be given *ad libitum.*

January 6th. To have six ounces of sherry. Doing as well as possible. Pulse 100 ; temperature 101.3° F.

January 7th. Sutures removed this morning. Very little air passes through the wound below the jaw when the patient swallows. A. M., pulse 80 ; temperature 98.6°. P. M., pulse 120 ; temperature 99.8°.

January 10th. Patient up and dressed to-day, it being six days since the operation. Steady convalescence. Voice nearly as good as before the operation.

January 12th. Six ligatures came away this morning. Patient eating mush and milk in the ward dining-room.

January 14th. No pulmonary complication has followed removal of the tube. Tracheal incision entirely healed.

January 17th. No change except rapid improvement. All but three of the ligatures have now come away. Patient can open the mouth much more than he could a week ago.

January 22d. But one ligature now remains.

January 26th. The last ligature came away to-day. Patient says that for the last four days he has felt the lower jaw firmer.

January 27th. Three weeks and two days since operation. Ether being given, a crucial incision one and a half inches long in each direction was made over the jaw in the line of the original separation of the fragments. The jaw was found to be united by firm vascular tissue. The wire was cut in two places and withdrawn without difficulty. The wound was closed by sutures.

January 30th. Some redness and puffiness about the wound. Sutures removed. Poultice applied to side of face.

February 1st. Inflammation disappearing under poultice.

February 3d. Some little discharge from wound, which is granulating up. Examination of throat shows complete healing as far as can be seen.

February 4th. Now one month since operation. Complains of swelling and stiffness under jaw. On examination a small, hard, localized swelling is detected.

February 5th. The swelling noticed yesterday is found to be freely movable, and apparently situated just under the anterior margin of the sterno-cleido-mastoid muscle, close to the end of the incision made at the first operation. It being considered a lymphatic gland, probably infiltrated with disease, its removal was advised.

February 6th. The patient desiring immediate operation, Dr. Cheever came in the afternoon to perform it.

With the patient in the horizontal position, an incision two inches long was made close to and parallel with the anterior margin of the sterno-cleido-mastoid muscle. This opening was enlarged by a slight cut midway in the primary incision, at right angles to it, and toward the median line of the neck. The sterno-mastoid being held out of the way by a retractor, the gland was reached by careful dissection. It was dissected out by cautious cutting with the scalpel, hæmorrhage from the first being very free.

The tumor was adherent to the surrounding parts, and lying on the carotid sheath. Numerous vessels were cut short near their origin from the carotid. Six ligatures were applied, and six sutures used to bring together the edges of the wound, an opening being left below for the passage of the knot of ligatures. Cold-water compress and bandage.

On section, the gross appearance of the gland was that of a ring of malignant disease surrounding a mass of cheesy degeneration.

February 7th. Patient suffered much from his ether, being depressed and uneasy. Hypodermic injection of one sixth of a grain of sulphate of morphia without much effect. Pain in neck not excessive.

February 8th. Sitting up. Some redness and soreness about wound. Poultice.

February 9th. Less angry appearance about wound. Patient more comfortable. All sutures removed. Union by first intention, except around ligatures.

February 12th. Five ligatures removed. Patient up and walking about, feeling quite well.

February 17th. Jaw matches well, with no sign of division. Throat entirely healed. Slight granulating surface of second operation (for removal of wire) touched with caustic. Last ligature brought away. Omit poultice, and dress with simple cerate on sheet lint.

February 20th. Now two months since the first operation. Patient has continued to improve. Slight exuberance of granulations where the last ligature came away touched with caustic. External orifice of mouth somewhat awry. Slight numbness over right side of chin still remains. In the site of the removed tonsil is a hard mass, the size of a bean, possibly cicatricial only, but enough to arouse suspicion. To take iodide of potassium, five grains three times a day for a month, and to be discharged.

After three weeks' absence the patient returned. The suspicious hard scar in the fauces had grown into a lump as large as a small hickory nut. The outer surface of the neck was well.

Without ether, the throat was deeply and repeatedly cauterized with the galvano-cautery and platinum wire. A loop was put around the growth and it was cut off. Its base was deeply burned and shriveled up with the white-hot platinum point. The patient convalesced readily. Two weeks later the growth had begun to start again. The patient was seated beside the kitchen range, and six irons were heated in the coals. Eighteen applications were made to the region of the tonsil and soft palate, with white-hot irons. No ether was given. The patient bore the treatment with great firmness. The whole region was deeply burned, shrunken, and charred. In one week's time he recovered, swallowed well, and was again discharged April 1st.

The last week in May, less than two months after the last cauterization, the patient again returned. The right half of the throat was occupied by a hard, lobulated tumor which grew from between the soft palate and pharynx, and two thirds occluded the pharynx. It was much larger than before the first operation of January 4th, five months previous. Outside, the neck was occupied by a tumor as large as a cocoa-nut, filling the neck from the jaw nearly to the collar-bone, and pushing over the larynx an inch beyond the median line. This swelling was red, angry, and œdematous, but not fluctuating. The patient could still swallow and breathe without difficulty, and had but little pain. His general health was vigorous. He was advised to forego any farther operative measures, and to try to keep himself comfortable as long as he could live. If dyspnœa supervened, to have a tube put in the trachea, and if dysphagia came on, to have the external mass incised to relieve pressure.

To recapitulate, it will thus be seen that the primary growth began in the tonsil in August. Lymphatic poisoning and a bubo formed in November. The tumor and the bubo were removed by the knife early in January. Early in February a second bubo had formed, and was removed. In March the original growth was sprouting again, and was twice burned away, the bubo not recurring. In May the pharyngeal tumor was larger than ever, and the bubo was recurrent in an enormous growth.

The very malignant history of this case and the rarity of cancer of the tonsil render the microscopic examination of the primary growth of much interest.

Numerous hardened sections were made and compared with others from normal tonsils. Accurate drawings with the camera lucida of both were prepared, but circumstances have prevented their reproduction with this article. To describe with fidelity the various appearances is difficult, but we will endeavor to do so.

The cells of normal tonsil are packed in irregular lobules, but are of uniform size and rounded form. The cells of the tumor are also packed in capsules of connective tissue, but they are not of uniform size, and they are epitheloid in form. They also show some tendency to be arranged in nests. Normal tonsil has trabeculæ of fibrous and connective tissue intersecting it. In the tumor these are all displaced and obliterated by epitheloid cells. Normal tonsil is largely permeated by striped muscular tissue, in groups of bundles and aggregated together. The tumor shows the same striated fibrillæ everywhere pushed apart by rapid and dense cell-growth. In normal tonsil it is possible to make out the lobules and follicles of the gland. In the tumor it is not. In short, in the new growth the elements of the true tonsil have been separated, obscured, and overlaid, so to speak, by a dense and enormous reproduction of cells resembling epithelial cells, with but little connective tissue.

In the tumor of the tonsil removed and described by me in 1869, the growth was largely cellular, and with but little connective tissue. The cells were uniform and ovoid. But they contained two, three, and even four nucleoli. In that case there was a subsequent infiltration of the soft palate. The patient was lost sight of, but the tumor was malignant and recurrent in all probability. It also had poisoned the lymphatics, and bubo was present in the neck. It is recorded that this lymphatic gland, thus secondarily affected, had the same cell elements and arrangement as the tumor of the tonsil.

The operation in 1869 differed in some details from the one described above, and a brief abstract of it may be permitted.[1]

In the first case the digastric, stylo-hyoid, and stylo-glossus muscles were divided to get room. In the second case this was gained by sawing the lower jaw and turning it up, and thus none of these muscles were cut, but they were all drawn downwards. The second manœuvre we think the best. In the first case both pillars of the soft palate were left intact; in the second the anterior pillar (palato-glossus) was adherent to the growth, and was divided. The largest vessel cut in each case was the facial artery. Twelve ligatures were required in the first case, fourteen in the second. In each case paralysis of the lower lip ensued, due to the division of filaments of the facial nerve. In the first case the tumor was smaller, the opening into the pharynx was smaller, and no fluid escaped from the wound, in swallowing liquids, after eight days. In the second case *no fluid* escaped from the wound at all in *deglutition*, but only air was churned out. The first case was fed with a stomach tube. The second swallowed voluntarily and easily.

The fear of a permanent fistula is proved to be fallacious by the results in œsophagotomy, and it is even less likely to follow pharyngotomy.

Removal of tumors of the tonsil by *external* incision is not free from danger from the depth of the wound, the proximity of the internal carotid, and the crossing through the wound of the hypoglossal, gustatory, and glosso-pharyngeal nerves.

Says Mr. Bryant: "The removal of these tumors from *within* seems almost out of all question, whether by caustics, the écraseur, or enucleation. I attempted the latter plan in one case, with only partial success."

The question remains whether, in view of such rapid and persistent recurrence as in the second case, it is worth while to interfere with cancer of the tonsil at all, by operation. The same doubt might apply to other cancers, especially those growing in warm and moist situations, which increase faster and are more speedily fatal than those on the cutaneous surface. Cancer in the sphenoid cells and the antrum is an example.

THE RELATION WHICH CHEMISTRY BEARS TO FORENSIC MEDICINE.[2]

BY PROF. E. S. WOOD, M. D.

It will naturally be impossible, in the short space of twenty minutes allotted to this essay, to treat with any degree of thoroughness so extensive a subject. I shall therefore limit my remarks to a few practical points having reference to the relations between the medical chemist and the medical jurist or medical examiner, the importance of which my experience with toxicological cases in New England has shown me is either not generally appreciated or is not always borne in mind.

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[1] Vide Medical and Surgical Reports of the Boston City Hospital, First Series, 1870, page 390 et seq.

[2] Read before the Massachusetts Medico-Legal Society.

The duty of the chemist in legal cases is, in the first place, to assist justice, and, in the second, if possible, to further the advancement of science; and in order to fulfill this duty his work must be most thoroughly done, which necessarily presupposes a proper and complete treatment of the case before it reaches his hands. The object of a chemical analysis, in toxicological cases at least, — and it is to these cases that I shall chiefly refer, — is to determine the cause of death, or to confirm the opinion already formed. If poison has been the cause of death, this should be determined by the shortest method consistent with accuracy; and to accomplish this the chemist should be possessed of all of the information which it is possible for the physician to give him. He should be not merely a chemist, but he should be a toxicologist, in the widest sense of the term. He should understand not only the physical and chemical properties of the poisons which he endeavors to detect, but also their action upon the human and animal economy, the symptoms which they produce, and the changes which they may cause in the various organs and tissues. With such knowledge he may, provided with the information which can be furnished only by the physician who had charge of the case before death, or the pathologist who conducted the examination of the body after death, often be enabled to eliminate certain classes of poisons, or to confine his attention to a single class only or even to a single poison. If he is thus informed the analysis may be completed much more quickly than otherwise, and the county saved considerable expense.

It only too frequently happens that a complete account of the post-mortem appearances cannot be obtained, because the section has not been thoroughly performed. In a personal experience with four cases of poisoning by strychnia, three of which were cases of criminal poisoning, I have never known of the spinal cord being examined, a point which might prove of vital importance in a criminal trial; and in one of these cases, one which may still result in criminal proceedings, the intestines even were not examined, except perhaps their external surface. In two other cases in which the cause of death was an irritant poison, the intestines were delivered to me unopened, an omission which might result in the escape of a person guilty of murder.

Another important point in reference to enabling the chemist to perform his work properly is the collection of the suitable material for analysis both during life and after death. Most important of all is the saving of the vomitus and excreta in cases of suspected poisoning. There are numerous instances in which this precaution was almost the sole means of proving the cause of death. We all know that the irritant poisons are violent emetics, and frequently result in the complete emptying of the stomach, so that after death no poison can be found in that viscus. The most notable instance of this kind which I recall is that of Couty de la Pomerais, which was investigated by M. Tardieu in 1863, and in which a large amount of digitalin was obtained from scrapings from the floor on which the vomitus had fallen, while only traces could be detected in the stomach and intestines. Anything which has been stained by vomitus or excreta, such as clothing or bedding, may be of the greatest importance in a medico-legal case, and should never be thrown away or be washed, as is too frequently the case. In a case of digitalis poisoning of my own it appeared in evidence that the bedding and clothing were very much soiled by vomitus and intestinal discharges, yet it was not saved for examination. This was not, however, of great conseqence, since quite a large quantity of powdered digitalis was found in the stomach after death, a sufficient amount to enable me to detect it by the chemical, botanical, and physiological tests. It may happen, too, that the administration of emetics or the use of the stomach-pump may entirely remove the poison from the stomach, in which case the vomitus and excreta evacuated before death, and fluids withdrawn by the stomach-pump, would be the most important substances for analysis.

In some cases life may be prolonged for a sufficiently long time to permit of the complete elimination of the poison, and death result only from its secondary effects. This is especially apt to be so with phosphorus and some of the alkaloids, and in one case of arsenical poisoning, with which I was familiar, and in which the patient did not die for about a fortnight, there was only a minute amount of arsenic left in the organs. Hence another reason for saving the vomitus, if there is any, in cases of *suspected* poisoning.

For the same reasons the urine which is passed during life should be collected for chemical examination when poisoning is suspected. The kidneys being the chief eliminatory organs, the urine is apt to contain the poison for a long time after its ingestion. This is most liable to be of significance in the case of those poisons which do not prove fatal in a short time, such as arsenic, antimony, and some of the vegetable poisons; especially important is it in cases of chronic antimony poisoning, one of which has recently been on trial in New York. The urine is of value in such cases not only for the detection of the poison, but also for the ordinary clinical examination, which may show evidences of fatty degeneration of the kidney in cases of phosphorus, arsenic, and antimony poisoning, or of acute nephritis, which may be due to the action of many irritant poisons in passing through the kidney, such as mercury, cantharides, etc. I once had an opportunity of examining the urine in a case of poisoning caused by a medicinal dose of calomel; it presented all of the characteristics of acute nephritis.

The urine found in the bladder after death is also of great importance in many cases, since the detection of the poison in that fluid may settle the question, within certain limits, as to the time of its administration, — a question which is of such vital importance in many medico-legal cases. This is also of scientific interest in showing the time required for the complete elimination of a poison. For instance, it has been recently determined that arsenic *may* remain in the system for six and a half weeks, although fifteen to twenty days is usually considered sufficient for its complete separation from the body.

Suspicious substances, those which may have been the cause of the illness, found in the room or neighborhood of the patient or deceased should in legal or doubtful cases always be seized for testing; and this should always be done *at once*, when first seen by the physician, coroner, or medical examiner, and no time allowed to elapse so that they may be tampered with. The possession of such substances by the chemist will frequently show him, by a few simple tests, the nature of the poison probably present, and perhaps enable him to arrive at his results many days earlier than he otherwise could. Although this would seem to be the most natural thing for the medical officer to do, yet it is, so far as my experience goes, very rarely done. In a case which is still under investigation, I was not informed until after my analysis was nearly completed that the suspected person was possessed of oxalic acid and nux vomica; but, fortunately, the symptoms were known, so that the latter substance was sought for rather than any of the irritant poisons. In another case, however, crystals which proved to be those of oxalic acid were found in the pocket of a coat belonging to the deceased, and by searching directly for this substance, and using the entire amount of material at my command, I was enabled to detect it, a result which probably could not have been attained had a large portion of the material been used up in an analysis for the other irritant poisons.

Again, I regret to be obliged to make the statement that it is rare for me to receive for analysis, in cases of suspected death from poison, any organs except the stomach, until the fact is mentioned that if the case should happen to result in a criminal trial, the detection of the poison in the stomach alone might be of no avail, since that would not prove with absolute certainty that it had not been introduced into the body after death; whereas its presence in other organs at a distance from the stomach would show that it must have been absorbed into the circulation and carried there during life, and also that death may have resulted from the action of a poison which has disappeared from the stomach and intestines, but may be found in the other viscera. Of the solid viscera the liver, as a rule, contains the largest amount of poison when the latter has been taken by the mouth, it being carried to that organ as soon as absorbed through the portal circulation; and in the case of many poisons, strychnia for example, it appears to enter into organic combination with the tissue or constituents of that viscus, and be retained, or heaped up in it, as it were. In some criminal cases, however, the objection may be raised, especially when a long time has elapsed since the death of the victim, that the poison may have reached the liver also after death by endosmosis through the wall of the stomach, and therefore the analysis of some of the other organs also is of value. For this reason the various organs should always be placed in different vessels, and never be allowed to lie in contact with each other.

It is of almost as much importance to save the brain for analysis as the liver. In the case of arsenic, for example, it has been recently shown that this poison is contained in the brain to a larger extent even than in the liver in cases of poisoning by it. It would surely be impossible to introduce arsenic or other poison into the cavity of the skull after death without the certainty of the detection of such an act.

Frequently, even when vomiting and purging have not occurred, all of the poison may have been removed from the stomach and intestines by absorption, and yet be capable of detection in the blood and solid viscera. Nicotina, for example, in the famous Count Bocarmé case, was detected in the liver and lungs; prussic acid has frequently been found in the blood, phosphorus in the liver; strychnia and nearly all of the mineral and vegetable poisons have been found in the blood, secretions, and solid viscera. The stomach, contents of the stomach, intestines, contents of the intestines, liver, brain, spleen and kidneys, and urine should be placed in separate jars for chemical analysis in all cases in which a chemical analysis is of importance. Except in criminal cases it will not be advisable, of course, to examine all of these organs separately, on account of the length of time required and the expense incurred; but in many cases, when not needed for legal purposes, this material may be used for settling some points of scientific interest.

It is also of value to remember that the identity of all of these articles, after they have been properly removed, sealed, and labeled, must be preserved beyond any question whatever. This can be done only by keeping them under lock and key until they are dispatched by special messenger, or better messengers, and delivered in person to the analyst, who must in his turn keep them constantly under lock and key. In a recent criminal trial, a notorious criminal would have escaped from justice had the chemical evidence rested solely upon the detection of the poison in the stomach, which had been sent by express. The other organs, which also proved to contain the poison, were afterwards sent by special messenger, according to the direction of the analyst.

RECENT PROGRESS IN THE TREATMENT OF CHILDREN'S DISEASES.[1]

BY D. H. HAYDEN, M. D.

Bronchitis in Infants and the Histology of Plugs in the Bronchi.[2] — Dr. Schlemmer, docent and instructor in forensic medicine at the Vienna University, begins the consideration of the subject in question with the assertion that the manner of death in infants in a large proportion of cases is by suffocation (66.7 per cent.). This is explained by the fact that the new-born child at the moment of birth is exposed to the dangers of premature respiration, with imperfect entrance of air; and the suckling, owing to its external conditions and the thereby resulting demands of its organism, is equally liable to this accident.

The author discusses in order the subject of infants' nourishment, the matters pertaining to the dwelling and the care of infants, and the influences of temperature upon them. He then proceeds to the description of the post-mortem appearances found in those who have died of suffocation; and side by side with bronchitis — divided here into two classes — are contrasted the other cases of death by suffocation, as during vomiting, at the moment of birth, by the bed-clothes, as well as by violence (strangulation, casting into a privy).

The first class of cases of bronchitis comprises those where the disease is recognized but not rightfully appreciated. (Seventy-three cases in one year, a portion of the autopsy reports being given in full.) The second class of "bronchitic cases" embraces those where the disease had not been recognized, and where the child had died suddenly in convulsions, or without any peculiar symptoms that attracted notice. (Eighteen cases within one year.) In all these cases, wherever the author could demonstrate the signs of suffocation macroscopically, he always found plugs in the bronchi, and at the same time more or less redness of the mucous membrane. He was also able to show microscopically that the origin of these plugs was the mucous membrane of the bronchi. There need be simply a slight departure from the infant's usual health, entirely overlooked by those in charge, to exercise an influence favoring these accumulations, which are found on microscopical examination to consist of epithelium, more or less changed from the normal (turbidity, loss of the ciliæ, and an isolation of the separate epithelial cells). There was found to have coexisted in more than one third of the cases an intestinal catarrh, and the author is inclined to the opinion that this latter and bronchitis, from an ætiological point of view, have many things in common.

Cases of suffocation from other causes than bronchitis are then considered, those occurring during the act of vomiting being first taken up. In these cases there are noticed, as contents of the bronchi, a fluid containing milk corpuscles with isolated ciliated epithelial cells, sparsely granulated, presenting the appearance of being covered with dust, and they generally occur just after the infant has had a full meal. Six cases are added of suffocation by the bed-clothes, nine at the time of birth, and five by violence after birth.

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[1] Concluded from page 120.

[2] Oesterreichisches Jahrbuch für Pädiatrik, viii. 1, s. 41, 1877; Schmidt's Jahrbücher, No. 1, March 11, 1878.

The results of his investigations are summed up as follows: The meconium or liquor amnii inspired during birth can, sometimes after the lapse of a long time, be the cause of death. The disturbances set up by diseases of the air-passages can easily be overlooked in infants by those in charge. At this age also partial impediments to respiration (slipping down of the infant under the bed-clothes) can be fatal. Death by suffocation is made easy in infants, owing to the rapid changes in the epithelium of their mucous membrane, a material being thereby furnished for closing up the bronchi with plugs, and for the stirring up of local disturbances. When the obstruction to the entrance of air is a purely mechanical one (bed-clothes, strangulation by violence), no foreign substance will be found in the bronchi; when caused by the inspiration of fluids (during vomiting, amniotic fluid, meconium) their presence will be detected. The gross appearances in bronchitis can often be confounded with those due to some other process (suffocation during vomiting), and can be differentiated the one from the other only by the microscope (especially by microscopical chemistry).

Lymphadenitis Retropharyngealis and its Relation to Idiopathic Retropharyngeal Abscesses in Children.[1] — Dr. E. Kormann,[2] following in this article the excellent work of Dr. Bokai, published in 1876,[3] gives the result of a large number of investigations made for the purpose of testing the accuracy of the theory, first demonstrated by Dr. Schmitz,[4] of the connection between lymphadenitis and retropharyngeal abscesses. For this purpose the author has subjected, since the appearance of Dr. Schmitz's article, to a digital examination of the pharynx all children that have been brought to him affected with chronic nasal catarrh, or with acute affections of similar nature, as well as all affected in any way with difficulty of swallowing. Of the 211 cases thus examined an inflammation of the retropharyngeal glands was found 193 times, and as follows: —

33 cases of soör	23 times.
57 cases of stomatitis catarrhalis and ulcerosa	12 times.
57 cases of (scrofulous) ozœna and chronic pharyngitis	55 times.
10 cases of inflammation of the ear-passages (mostly of middle ear)	10 times.
83 cases of pharyngeal catarrh in scarlet fever and measles	80 times.
13 cases of diphtheritis faucium	13 times.

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[1] Schmidt's Jahrbücher, No. 2, April 8, 1878.

[2] Central-Zeitung für Kinderheilkunde, i. 5, page 67, 1877.

[3] Vide JOURNAL, February 1, 1877, page 133.

[4] Vide JOURNAL, February 5, 1874, page 140.

In these 193 cases it came only once to the formation of an abscess. In adults Dr. Kormann has up to the present time examined only those affected with syphilitic pharyngitis, and without one exception he has been able to detect swelling of the glands; likewise in two cases of mercurialismus. In a patient suffering with chronic pharyngitis and a suspicious cough, and living under unfavorable external conditions, he found a double-sided retropharyngeal abscess.

In accordance, therefore, with these numerous observations of Dr. Kormann, inflammation of the retropharyngeal glands is much more common with children than is generally supposed; and in nearly every case of ozœna, pharyngitis, pharyngeal diphtheria, or inflammations of the ear these glands are to be found swollen behind one or both tonsils. Inasmuch as, however, of all these cases one only came to the formation of an abscess, Dr. Kormann, in opposition to the view of Dr. Bokai, considers the termination in resolution as the rule. There was but one fatal case (scarlatina with diphtheritis faucium), and an autopsy of this could not be obtained. The two cases of retropharyngeal abscess are reported in full, and the following conclusions are given as a result of the investigations: —

(1.) Swollen and inflamed retropharyngeal glands (lymphadenitis retropharyngealis) are a frequent accompaniment of diseases of the nose, pharynx, and mouth, as well as of the ear, and are probably to be regarded as the rule, in the same way as a swelling of the subcutaneous glands in eczemas of the skin, and in scrofulous inflammation in general. Among exciting causes are prominently to be mentioned chronic inflammations as found in scrofulous children, and the acute affections of which inflammations of the mouth are one symptom, as diphtheria, measles, scarlatina, soör, syphilis. With regard to small-pox the author has had no experience.

(2.) Retropharyngeal abscesses are always secondary, — idiopathic abscesses to a lymphadenitis, traumatic abscesses being consecutive to injuries, and sinking abscesses following caries of the vertebræ. Lymphadenitis is also a secondary affection, following a scrofulous or infectious disease of the mucous membrane. Abscesses called by Bokai secondary abscesses are to be classed with the sinking abscesses.

(3.) Retropharyngeal abscesses are not limited to the first two years of life (Schmitz), or to childhood (Bokai), although this affection in adults is extremely rare.

Acute Fatty Degeneration in New-Born Children.[1] — Herr Herz, at a meeting of the College of Physicians of Vienna, held December 17, 1877, read a paper upon the above disease, and reported two cases that had come under his observation, both having occurred in the same family, and one within a year of the other. The first accurate account of this disease was published in 1861 by Buhl and Hecker, and Herr Herz alluded to the great similarity of his cases with those reported by Dr. W. S. Bigelow as having occurred in the Boston Lying-In Hospital in 1873.[1]

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[1] Wiener medicinische Presse, No. 5, February 3, 1878.

There was an autopsy in one only of the cases, it not being permitted in the other, and the post-mortem appearances found specially characteristic of the disease were: (1) cyanosis; (2) fatty degeneration of the liver and kidneys; (3) internal hæmorrhages; (4) diphtheritic membrane in the pharynx. Microscopical examination showed in Herz's case that came to an autopsy, as in the eight autopsies reported by Dr. Bigelow, the presence of bodies resembling Billroth's cocco-bacteria.

The most prominent symptoms in Herz's cases, as well as in those reported by Dr. Bigelow, were: (1.) Dark discoloration of the skin. In Herz's cases the whole skin assumed a peculiar dark yellowish-green color (bronze), occurring in one case upon the eleventh, in the other upon the third day. Herz considers this discoloration to be of a hæmatogenous character, due to the exudation of the coloring matter of the blood previously having been transformed into hæmatoidine. In both the cases there was a slight icterus that preceded the dark discoloration. (2.) Hæmaturia. (3.) Diarrhœa, with offensive green stools. (4.) Diphtheritic affection of some mucous membrane. In both of Herz's cases there appeared upon the hard palate the "aphthæ of Bednar" (in the first case on the fourth day, in the second immediately after birth), which became covered with a diphtheritic membrane. This increased in circumference and depth, and finally involved the soft palate.

On the eleventh day with the first child, and on the third with the second, simultaneous with the dark discoloration, symptoms of decided collapse made their appearance, and on the twelfth and fourth days respectively death took place under an increasing collapse and the supervention of mild convulsions. Asphyxia, described by Buhl as one of the most prominent symptoms, was entirely absent in the second case, and in the first existed only in a very slight degree. Moreover, in this case the cyanosis did not follow immediately upon the asphyxia, as Buhl asserts, but preceded only a short time the fatal termination, appearing about at the same time as the collapse and hæmaturia.

The bronze coloration on the one hand and the hæmaturia on the other were the only clinically noticeable hæmorrhages in Herz's cases, although the surface of the kidneys showed ecchymoses, and there was more or less infiltration of blood into the substance of the spleen. From the absence of other hæmorrhages, and from the fact that the microscope showed fatty degeneration only in the liver and kidneys, the other organs prone to take on this degenerative change remaining entirely intact, Dr. Herz is led to the conclusion that this disease can appear with various grades of severity, and that his own cases were not of the severest form.

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[1] Vide JOURNAL, March 11, 1875, page 277.

A careful examination of the parents failed to show any possibility of an hereditary taint as the cause of the disease. The confinement in each case was an easy one, and the absence of asphyxia in the second case does not support Hewitt's theory of an intra-uterine cause. Dr. Herz considers the diphtheritic affection of the mouth which complicated in a striking manner both his cases to stand in a causal relation to the other disturbances, and agrees with Dr. Bigelow that these changes were of a septic character.

THE MASSACHUSETTS MEDICO-LEGAL SOCIETY.

REPORT OF THE CORRESPONDING SECRETARY, JUNE 11, 1878.

BY MEDICAL EXAMINER FREDERIC WINSOR, M. D.

It must be understood that the report which I have the honor to make has for its material the work of the six months ending December 31, 1877, and also that this was done under a statute of the commonwealth and under society by-laws altogether new to the medical examiners, who did the work and reported to the corresponding secretary. As a matter of course there has been, in performing duties so unfamiliar, less method, andaccuracy, promptness than may fairly be expected in the work of succeeding years.

During the six months which this report covers, forty-one of the fifty medical examiners who have joined this society made 443 "views," in 116 of which autopsies were made. Ninety-nine inquests have been held, leading to 21 prosecutions, of which 5 resulted in conviction. In these 443 cases, death resulted from natural causes in 102; from railroad accidents in 77; from other accidents in 129; from suicide in 71; from violence in 51.

It is of course desirable to pursue the analysis farther, and learn what modes of suicide were used, what was the most frequent form of fatal accident, etc.; but it is not possible to do so with regard to all the cases, 186 having never been reported in detail to the corresponding secretary.

Some information of interest may be obtained, however, by analyzing the remaining cases, and it appears that of 32 cases of suicide 12 were by hanging; 1 was by strangling; 6 by poison; 3 by drowning; 3 by shooting; 3 by railroad train; 2 by cutting the throat; 1 by stabbing; 1 by leaping from a height. Arsenious acid was the poison used in 2 cases, opium and morphia in 2 other cases.

Of the persons committing suicide 5 were known to be insane.

Of 64 deaths from accidents not caused by railroad carriages there were from drowning 36; from falls 7; from heavy falling articles 6; from inhaling coal-gas 5; by being run over 4; from machinery 2; from burning and scalding 2; from burning at lime-kiln, after suffocation by its gas, 1; by shooting 1.

Of the deaths by accidental drowning, 4 were of persons previously known to be insane.

One naturally asks, What proportion of these deaths by suicide or accident were preventable? The answer is, Very few under the existing state of things. But by judicious legislation the proportion of such deaths might be materially diminished. It is preposterous that no restrictions should be put upon the sale of poisons in this commonwealth. As the law now stands, *any one* can obtain for a few cents, at the nearest apothecary's shop, a fatal dose, and he may take his choice of half a dozen poisons. There is no reason to suppose that the provision of the present law, which requires the vender to keep a register of the name and residence of the persons purchasing certain specified poisons, is complied with in one quarter of the cases.

In view of the great loss of life by drowning, it seems within the function of the State to furnish instruction in swimming, and in resuscitating persons nearly drowned. To the writer it appears that such instruction might with propriety be grafted upon our public-school system. It must, however, be said that a very large proportion of the persons drowned, and so coming under the "view" of the medical examiner, were intoxicated at the time of the accident.

Much may be done to diminish the frequency of poisoning by coal-gas if the public can be informed as to the nature of the danger and the means of prevention, and if a public sentiment can be roused against "dampers" which close smoke-pipes and obstruct the escape of poisonous gases into the open air.

It is not generally known that of fatal railroad accidents quite one half happén to persons walking on or near the track, often while intoxicated. Now, if railroad corporations and the towns through which the roads pass can devise means to prevent such walking, fifty lives would be annually saved to the commonwealth.

Finally, whatever tends to lessen drunkenness acts directly to diminish accidents of all kinds. If it were possible to put a stop to it, accidents would be diminished by one half.

Instead of criticising unsatisfactory reports of cases, and pointing out their defects, it seems wiser to submit to the society a few of the many reports which are excellent, in the hope that they may serve as standards for future work.

CASE VII.[1] (1.) View in Wakefield, on east shore of Lake Quanapouitt.

(2.) May 22, 1878. Twelve, noon.

(3.) Summoned by H. Haskell, Jr.

(4.) Male. Age unknown, one to five days. Nationality unknown.

(5.) Name and residence unknown.

(6.) This body of a male infant was found floating in the water, a short distance from the eastern shore. Wind blowing freshly from the west. Body beating up and down against the rocks. On the shore near the body was a woven cotton and wool undershirt, sleeves cut off, partly filled with coarse sand. Flakes of epidermis were adherent to the inside of the shirt. The body of the infant had around its neck a piece of cord (clothes-line) 1.5 m. in length. This cord was twice around the neck, but very loosely, and was knotted. There was also thrice around the neck a piece of cotton twine, one m. in length. The large cord was caught in a small bush at a short distance from the shore, and parted in the attempt to land it.

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[1] The numeral references in these illustrative cases correspond with the following "order of items" by which members of the society are guided in preparing their reports for the corresponding secretary: (1.) State locality of view. (2.) Date and hour. (3.) By whom summoned. (4.) Sex, age, and nationality of person found dead. (5.) Name and residence of deceased (if known). (6.) Position and condition of body. (7.) Circumstances determining decision of medical examiner. (8.) Autopsy and its results. (9.) Microscopical and chemical examination. (10.) Inquest and its results; whether or not followed by prosecution and conviction of any person implicated.

Time of Death. — In my opinion death occurred between May 1 and May 15, 1878.

(7.) Decision of medical examiner and circumstances determining it: —

(*a.*) Maturity of child. Full term. (*b.*) Was it born alive? Position of diaphragm, appearance and condition of lungs (hydrostatic test), contents of large intestine, would all indicate that it had lived and breathed. (*c.*) If born alive, how long did it live? Between twenty-four hours and five days. Absence of meconium and color of fæcal matter in colon indicated an age of more than twenty-four hours. Condition of funis, less than five days. (*d.*) *What was the cause of its death?* I see no reason to doubt that it was thrown into the water alive, and perished from drowning, being doubtless tied up in the shirt already mentioned.

(8.) *Autopsy*, occupying forty-five minutes. *External examination.* — The body is (*a*) that of an apparently mature infant, fifty-two cm. in length, weight about five kilogr. A well-nourished infant. Arms and legs fat. (*b.*) Body pale and white generally. Abdomen and scalp bluish-green. (*c.*) Some thin, sanguineous fluid escaped from the mouth and ears. (*d.*) Hair thin and scanty. Eyes flabby and colorless (opaque). No teeth. Jaw-bone protruding through mucous membrane on left side (sup. max.). Roof of mouth deficient (from decomposition). (*e.*) A considerable portion of the flesh of the right shoulder (half-way down the arm) appeared to be torn or gnawed away; also two small spots about the back. (*f.*) Chest full. Abdomen much distended. (*g.*) Scrotum swollen. (*h.*) Epidermis wanting in exposed parts of the body. Adherent in the folds. (*i.*) Funis six cm. in length, firm, no ligature around it.

Internal Examination. — (*j.*) *Cranial cavity.* Scalp of moderate thickness, loose and flabby. Cranial bones appear loose within it. Bones well developed for a child at maturity. Sutures widely separated. Cerebral matter entirely gone.

Thorax. (*k.*) Incision from neck to pubes. Adipose tissue abundant. Muscles pale. Peritoneal cavity distended with gas. (*l.*) Diaphragm not highly arched. (*m.*) Position of abdominal organs normal. Sternum removed. (*n.*) Right lung distended, bright red in color. Left lung less distended, reddish-purple. Both lungs crepitant, and studded on the outside with vesicles. No fluid in pleura or pericardium. The vesicles on the surface of the lungs were carefully opened, and the lungs placed in a pail of fresh water. They floated high on its surface. (*o.*) The heart appeared normal, about the size of the child's fist. It contained no blood in either ventricle.

Abdomen. (*p.*) Stomach, kidneys, and portions of small intestines decomposed, and not readily distinguishable. (*q.*) Liver, dark purple, soft, and readily torn. (*r.*) Bladder empty. (*s.*) Colon filled with light-brown fæcal matter. No meconium.

(9.) Microscopic examination of skin on the shirt showed it to contain hairs, and consist of similar epidermis to that upon the body of the infant.

(10.) No inquest, no additional evidence being found.

S. W. Abbott, Medical Examiner, Third Middlesex District.

VII. (1.) View of body at Westville Street, Dorchester.

(2.) July 22, 1877. One P. M.

(3.) Friends of the deceased.

(4.) Female. Twenty-nine. American.

(5.) Cynthia S. Phillips. Westville Street, Dorchester.

(7.) Deceased was one of a party at a picnic at Silver Lake, June 28th. She, with others, was on a small steamer whose boiler exploded, by which accident she was severely burned and scalded about the nates and posterior aspect of both thighs. She lingered in great distress twenty-five days, and died of exhaustion consequent upon her injuries. The ulcerations did not heal except at small points.

(8.) *Autopsy* discovered the extensive granulating ulceration above described, but nothing farther to account for death. The internal organs were healthy.

(10.) Inquest before Judge Churchill found evidence of culpable negligence on the part of the boat owners. Upon this finding was based a settlement of claims preferred by the husband of above deceased, and by other persons injured at the explosion.

The inquest in this case was ordered by the district attorney in accordance with Section 10 of Chapter 200, 1877.

F. W. Draper, Medical Examiner.

XVIII. (1.) Boston City Hospital.

(2.) August 10, 1877. 7.40 P. M.

(3.) Hospital clerk.

(4.) Male. Sixty. Irish.

(5.) Dennis O'Brien. 143 Ruggles Street, Boston.

(6 and 7.) In the course of an altercation with one James Hurl, the deceased, who was drunk, was thrown to the ground, and in that position was punched by Hurl with his knees. O'Brien at once gave loud groans, as if in great pain, and was unable to walk. He was carried to the hospital, where he died on the day following, showing symptoms of internal hæmorrhage.

(8.) An *autopsy* found two quarts of red fluid exudation in the abdomen and thorax together; two ribs were broken; two ribs on one side and four on the other were loosened and partly detached from their spinal articulation; the lower lobe of the right lung was engorged; the liver was lacerated superficially on its inferior surface; in the interior were two clots of blood of the size of a lemon.

(10.) An inquest by Judge Churchill found Hurl guilty of manslaughter, but the grand jury reported "no bill."

F. W. Draper, Medical Examiner.

XLIII. (1.) 45 Melrose Street, Boston.
(2.) October 27, 1877. 7.20 P. M.
(3.) Police.
(4.) Male. New-born. Unknown (if not "American").
(5.) James Williams. 45 Melrose Street, Boston.

(6 and 7.) This new-born baby was found dead by its mother's side in bed. The mother had concealed her pregnancy and her labor, and the condition of things was discovered by people in the house by accident. The child had been born three hours when found; the mother said it lived "a few minutes." She had no baby clothes ready, and had made no engagements of doctor, or nurse, or lying-in help. She claimed that her husband was dead.

(8.) *Autopsy.* No marks of violence. A portion of cord eleven inches long hung from navel; its end was ragged, as if torn off. Lungs were crepitant and buoyant, showing respiration. Foramen ovale of heart was closed. The meninges were congested.

(10.) Inquest found infanticide by neglect, and the case came before the grand jury. "No bill." F. W. DRAPER, Medical Examiner.

(1.) City of Taunton. County of Bristol. In house on Court Street, where deceased had lived.
(2.) November 1, 1877. Three A. M.
(3.) The police.
(4.) Male. Sixty-five years. Irish.
(5.) Patrick Laughna. Taunton. Court Street.
(6.) Lying upon floor of kitchen, without mark or bruise.

(7.) The fire-alarm was struck, and Laughna got up, as had been his custom in such cases, and opened the window to look for the fire. Soon his daughter heard the sash fall, and heard her father groan. She came to him, and found him hanging by the neck, the sash resting upon the back and side of his neck. She released him, but "he breathed but once or twice afterwards."

(8.) No autopsy.
(10.) No inquest. SILAS D. PRESBREY, Medical Examiner.

CLARKE ON VISIONS.[1]

THE parts of this book which will awaken the deepest interest are at the beginning and the end. This is not to detract from the force of the reasoning, the ingenuity of speculation, or the clearness of the language with which Dr. Clarke sets forth his views in the body of the work; but the book as a whole is most valuable in some of its suggestions and almost involuntary admissions.

We find no very new physiological truths set forth, but rather the teachings of modern physiology applied with Dr. Clarke's well-known precision of thought and distinctness of language to a subject just so far in the border land of physiology that many are inclined, in discussing it, either to relax a little the strictness of scientific reasoning, or to dismiss it more or less contemptuously as unworthy their serious consideration.

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[1] *Visions: A Study of False Sight (Pseudopia).* By EDWARD H. CLARKE, M. D. With an Introduction and Memorial Sketch by OLIVER WENDELL HOLMES, M. D.

The aim of the book may be stated in brief to be the explanation of visions, that is, of hallucinations of sight, as the reawakening of old impressions either in their completedness or in part, or the combination of parts into a new whole, by stimuli acting not on the peripheral nerves usually concerned in sight, but at some higher part of the nervous centres. These impressions, reawakened with unusual intensity, are referred by a well-known law of nervous conduction to their usual source, that is, the retina stimulated by visual objects, and according to the mental condition of the patient become either hallucinations, recognized after a time as such, or the delusions of insanity, accepted as realities, and forming the basis of insane acts.

In the introduction, by Dr. O. W. Holmes, we learn how this book was written in the less painful intervals of an agonizing disease, which at last brought the long-wished-for release, — facts which we can hardly help having constantly before us as we read the concluding portions upon the visions of the dying.

Just as calmly as if he had not known how nearly his own departure was at hand, Dr. Clarke reduces to automatism the visions which often give so much comfort to those watching the process of dissolution, and seem to destroy the sting of death for the dying.

No one who reads this essay, or who knew Dr. Clarke, could accuse him of sentimentalism or of any reluctance to look facts squarely in the face; and we think there cannot fail to be many, perhaps more especially among those to whom he was for years a trusted friend and adviser, who will find no small consolation in noting how, with a striking absence of that scientific intolerance which in many writers almost assumes the bitterness of theological bigotry, and which treats as the merest superstition any hint that we have not as yet sounded the depths of the mystery of existence, the author does not hesitate to admit that perhaps some of these visions may have a cause outside of the body, and may really mean, what so many think and so many others try to think they mean, that the "ego" or soul, which he does not fear to consider as distinct from the brain, has for an instant, before the body has entirely passed from its control as an instrument of expression, caught a glimpse of a world beyond, and is enabled to bear witness, in the transfigured countenance or expressions of wonder or delight, to the glories it has seen.

To those who, in questions arising in that debatable ground where speculation may assume what it pleases, and where mere reasoning can prove anything or nothing, value the feelings and opinions of a learned, thoughtful, and candid man this book will be welcome.

KARL ROKITANSKY.

The telegraph brought us the news last week of the death of this distinguished pathologist, at the ripe age of seventy-four years.

He was born February 19, 1804, at Königsgrätz, in Bohemia. His father was *Kreiscommissär* in Leitmeritz. Rokitansky went to the lower school and to the gymnasium in his native town, then to the gymnasium in Leitmeritz, and finished his preliminary and scientific educations at the Prague and Vienna high schools. He arrived in Vienna in 1824, and took his doctor's degree there in 1828.

The pathological "*Prosectur*" or professorship in the General Hospital at Vienna was founded in June, 1812. Biermayer occupied the chair when Rokitansky began his studies, and Wagner was his assistant, succeeding him in 1830. Rokitansky's attention was early engrossed by this branch of his studies, and his own strong, clear, and honest mind was probably drawn thereto by the work and teaching of Wagner, which, though deficient in many respects, when judged by the standard of to-day, was superior to any work in morbid anatomy in Germany up to that time, and less open than teaching in other departments to the reproach of too little industrious, unprejudiced observation of facts, and too much vain theorizing in a hypocritical and pedantic jargon.

In 1827, before taking his degree, Rokitansky became second assistant, and in 1830, when Wagner succeeded Biermayer, he was made first assistant, and we soon after find honorable mention made of his work in his chief's reports. Upon Wagner's early death, in 1834, Rokitansky was appointed professor extraordinary, and in 1844 full professor and state's examiner in medico-legal cases. This was the culmination of his strictly professional honors, his advancement having been both steady and rapid. But his services and distinctions were not confined to pathology or medicine. In 1849 he was made a member of the Imperial Academy of Sciences, in 1853 rector of the University of Vienna, and in 1869 president of the Academy of Sciences. In 1867 he was made a life member of the Austrian Herrenhaus, and became an active and useful collaborator in the development of a liberal constitution, reminding us in this respect of another celebrated pathologist in Northern Germany. He received many decorations, and in 1874 was presented with the freedom of the city of Vienna In estimating the character of Rokitansky as a man and as a pathologist, we should in justice compare him and his work, not so much with his later contemporaries and the state of the science in our own day, as with the surroundings and the state of knowledge from which he emerged. We shall probably have to ask the same indulgence from our successors. Free investigation was by no means encouraged in Austria when he began his work. Paris was then the great medical centre, and it was about this time that Louis was carrying on his really scientific investigations as to the pathology of fevers, and elaborating that of typhoid. There were about one thousand autopsies annually when he was assistant pathologist at the hospital in Vienna. This material was first used with any care or method by Wagner. Rokitansky soon saw the value of describing diseases as found in the organs after death, and not as indicated by symptoms during life and by theories derived therefrom. He valued a large material as throwing light upon the origin, progress, and effects of common diseases, and simplifying their classification, and not merely as offering rare specimens and curiosities.

This was the great advance made by him, and it should not diminish the honor due him that improved instruments and newer methods have carried the science beyond the point to which he brought it. Other branches of medical science have reaped much profit from his work, and after being acted upon favorably themselves have reacted favorably upon pathology. It is not too much to say that the progress of medicine toward the position of an exact science, which has made specialties possible, and indeed inevitable, may be ascribed rather to the development of pathology in the direction given to it by Rokitansky than to any other one thing. We think we may safely repeat his own feeling in regard to his own work as expressed when returning thanks for the honors paid him upon his seventieth birthday: "Pathological histology and pathological chemistry have been built up; experimental pathology has been called into being. My science has not only brought healing to the sick bed, but also — and upon this I lay great stress — coöperated directly and indirectly upon all fields of natural science, and thereby enriched natural science in general. By the study of pathology not only is light thrown upon a limited and hitherto obscure region, but it is also shown what results are to be reached by material investigation in every direction. I confess I rejoice and take pride in this, that every advance in my department is followed by advances in others."

Rokitansky was not a good teacher, and a very poor lecturer, as we painfully remember. His voice was inaudible, his manner negligent, and his German impure even for Vienna. Neither was he a voluminous writer. We believe his neglect to cultivate the accomplishments and attractions necessary in the successful teacher may be attributed, in part at least, to his dislike of the pompous pedantry prevalent in his earlier days. His reputation has suffered, and will continue to, in consequence. It will be mainly supported by his chief work, a Manual of Pathological Anatomy, which was published in Vienna in five volumes, 1842–1846, and has since passed through several editions, and been translated into English by the Sydenham Society. He failed to found a school, nor is his teaching propagated to-day at other universities and in other parts of the world by his pupils. In this respect he exhibits a marked contrast to his famous Berlin contemporary, Virchow. But he was an honest, laborious man, and what his hand found to do, either to advance science or to promote the best interests of mankind, that he did with his might. The pathological institute, which he was instrumental in procuring for the hospital in Vienna, will be a monument to his memory, and, in contrast with the miserable, leaky structure in which he began his work, its improved facilities and accommodations will fitly represent the progress made in the science to which he devoted his life and so largely contributed.

Upon his retirement from the professorship, rendered obligatory by his reaching the threescore and ten years, the post was offered to Recklinghausen and declined by him. It is now filled by Heschl, of Graz, a pupil and ardent admirer of Rokitansky's, whose name we have been sorry to see lately connected with an apparently reckless and unfounded assault upon the products of American pork packing.

MEDICAL NOTES.

— A novel addition is about to be made to the library of the Paris Academy of Medicine by the creation of a special department for the display of surgical instruments. The son of one of the most eminent accoucheurs of the last century has decided to give the important collection of instruments made by his father.

— Dr. Andrew Fergus, in the June number of the Edinburgh *Medical Monthly*, shows by a series of interesting experiments how easily sewer gases permeate and pass through the water in the traps which heretofore, very strangely, have been considered an effectual prevention of the entrance of sewer gas into houses through the waste-pipes.

— The late Dr. Jephson, of Leamington, Eng., actually received during one year of his practice £24,000. — The *Lancet* congratulates Brown-Séquard on his recent appointment as the successor of Claude Bernard in the College of France, and thinks the profession at large will be gratified by the appointment. — Professor von Bischoff has been replaced in the University of Munich by Professor Rüdiger. — Dr. Erasmus Wilson has resigned his position as professor of dermatology in the College of Surgeons, London. It is thought that Jonathan Hutchinson will be his successor. — Out of accumulated funds the Society of Medical Professors in Vienna propose to erect a bust of the late Professor Oppolzer. — The Prince of Wales has appointed Professor Lister as juror in the department of medicine, hygiene, and public relief in the British section of the Paris Exhibition.

— Chinese rice paper, is not really a paper but consists of the pith of the stems of *Aralia papyrifera*, cut with large and very sharp knives, either radially into small, or spirally into large, layers as thin as paper, which are pressed smooth, and are used in China for delicate aquarell paintings, and in Europe in the manufacture of artificial flowers, etc.

— According to the Lyon *Medical* the women of Roumania, during their confinements, place themselves in the knee-elbow position. The midwife, meanwhile, with the fore-arms strongly compresses the abdomen of the patient in order to prevent the uterus and its contents from rising during the intervals between its contractions. The placenta is always buried.

— After a series of experiments which he has communicated to the Paris Academy of Sciences, Professor Vulpian concludes that the chorda tympani nerve is derived from the trigeminus, and not from the facial nerve or from Wrisberg's branch.

— It is reported that a university is to be established at Tomsk, Siberia, funds in sufficiency having been subscribed by private individuals.

— Judge Clark, of Texas, has given the opinion that a physician cannot be compelled to neglect his business to attend court and testify as an expert without compensation, and added that he knew of no law which can force a doctor into court against his will.

— The *Medical Record*, June 29th, severely condemns the American Medical Association for hindering the publication in medical journals of papers read at its meetings.

— It seems that Charcot was not a defeated competitor for the chair now occupied by Brown-Séquard in the College of France; he withdrew from the contest. — Dr. A. Menzel, one of Billroth's most distinguished pupils, recently died in Berlin. — At the recent exhibition of the London Royal Art Academy, Sir Henry Thompson contributed a painting of a chapel of St. Mark's, Venice, and Dr. Evershed a horse's head as A Study from Life. — Professor Hoffmann, of Leipzig, and Drs. Walffhügl and Forster, of Munich, are candidates for the chair of hygiene in the University of Amsterdam. — Professor Bartels, of Kiel, is dead. — Privat Docenten Fleischl and Von Stoffela, of Vienna, have been appointed extraordinary professors respectively of physiology and clinical medicine. — Nobeling, the would-be assassin of Emperor William, is not a member of our profession, but a doctor of philosophy. — Dr. B. W. Richardson has been elected an honorary Fellow of the Faculty of Physicians and Surgeons of Glasgow. — Professor Huxley has been elected corresponding Fellow of the Royal Academy of Rome in the department of natural history. — Sir James Coxe, a distinguished Scotch physician, is dead. — Dr. William Goodell has in press a work entitled Lessons in Clinical Gynæcology. It will receive warm welcome. — During the year 1877 six hundred and twelve deaths from typhoid fever occurred in Berlin. — There are forty thousand epileptics in France: four thousand of them in insane asylums, the remainder at liberty. — Sir Henry Thompson does not think the application of the microphone to surgery, especially in searching for stone, will prove practicable.

— *Brain* is the title of a new journal of neurology which we have received, edited by Drs. J. C. Bucknill, J. Crichton Browne, D. Ferrier, J. Hughlings Jackson, — men whose names are well known, and whose ability is respected all over this country as well as Europe. They will doubtless be able to command the very best of support, and indeed the papers in the number lying before us are full of interest.

In spite of the huge volume of our current literature we are always happy, when a new and good journal appears, to revise our list once more and give it a welcome. The name strikes the ear at first with rather a shock, but we presume it was adopted as the antithesis of "mind," the editors of *Brain* being well known to be interested in the class of subjects treated of in that journal, but wishing to approach them from the physiological point of view. As a matter of fact the new journal proposes to concern itself with "all that relates to the anatomy, physiology, pathology, and therapeutics of the nervous system," so that its title is something of a misnomer.

— Von Vintschgau and Hönigschmid, — Pflüger's Archiv, — in order to learn whether the glosso-pharyngeal nerve actually ends in the taste bulbs of the posterior third of the tongue, excised a short section of the nerve in young rabbits. Five months later the "taste-goblets" of the side on which the nerve was divided had completely disappeared, and in place of them was found ordinary squamous epithelium.

— The *Lancet* considers a knowledge of stenography very necessary to the medical student. This journal blames Sir Henry Thompson for allowing his views on the uses of the microphone in surgery to be published in the London *Times.*

BOSTON CITY HOSPITAL.

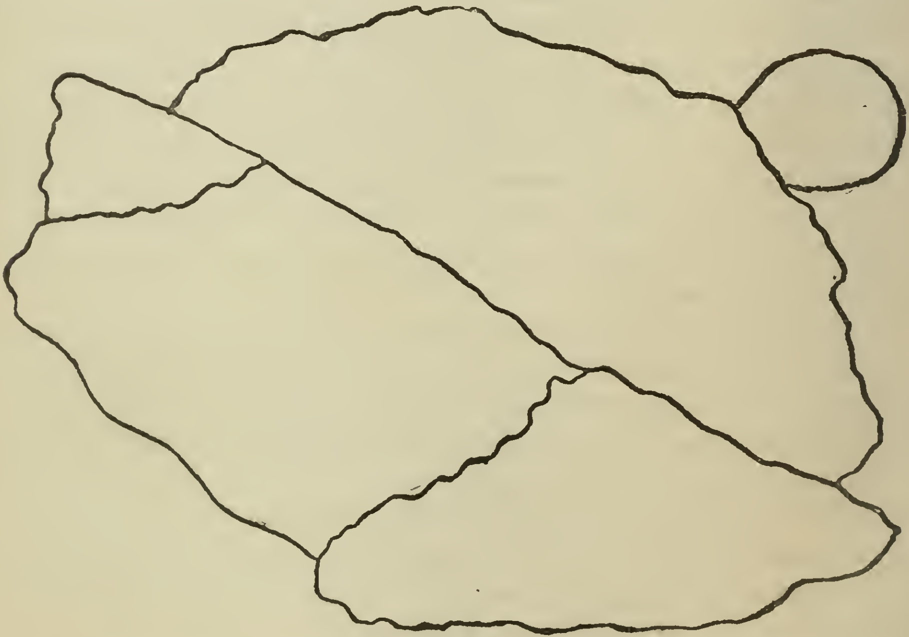
SURGICAL CASES IN THE SERVICE OF DR. INGALLS: THREE CASES OF FRACTURE OF THE SKULL.

[REPORTED BY E. O. OTIS, HOUSE SURGEON.]

CASE I. *Compound, Comminuted, and Depressed Fracture; Trephining.* — March 31, 1878, Hugh Reed, twenty-two years old, was brought to the hospital by a police officer, and left without a history. It was learned a few days after, from the daily papers, that he had been struck on the head with a shovel. He walked up the steps of the hospital and undressed himself unaided. When seen he was conscious, did what he was told to, but did not speak. All his movements were slow.

There was no paralysis; the respiration was loud; the pulse 80 and strong. The left pupil was normal; the right was larger than the left, and did not respond to light. Both eyes were ecchymosed and eyelids swollen. His tongue was black and dry. His general condition, filthy.

Besides several cuts and abrasions about his face, there was an incised wound an inch and a half long on the left temple, three inches above the eye. Through this the probe passed into a crack as between two bones. In the centre of the left temple there was a depression of irregular outline about two inches in diameter, with a hard border, the seat of fracture. There were also signs of epistaxis. About two hours after his entrance ether was given, and a crucial incision was made by Dr. Thorndike, each arm of which was from three to four inches long. A fracture nearly three inches long by two and a half inches wide was exposed, of a gutter shape; the centre being depressed perhaps three quarters of an inch. Both the frontal and parietal bones were involved. The fragments were above completely separated, and below held only by the inner table and tissues on the bone.



Attempts to lift the fragments being unsuccessful, a small circle of bone was removed with the trephine near the upper edge of depression, and the upper and largest piece separated with the elevator; the remaining fragments were then easily taken away.

The exact size of the fragments, in their relative position, is shown in the diagram.

In the course of the operation a severe hæmorrhage from the inside of the skull started, and a large artery, probably the middle meningeal, was tied, the dura mater being held by a tenaculum. The membrane itself was apparently uninjured, but forced down from its normal position. Several small arteries in the flaps being tied, the latter were brought together by sutures, an opening being left for drainage, and the patient was put to bed with an ice-cap upon his head.

During the operation the pulse ran up to 160, and became weak. Stimulants and sedatives were given. After passing a restless night he awoke quite bright the next morning, said he felt well, and talked intelligently; the hæmorrhage had entirely ceased, and the pulse was fairly strong. On the next day, the beginning of the service of Dr. Ingalls, he complained of pain at the site of the wound, which, later, extended over the whole head, with œdema and swelling about the wound, running over to the other side of the forehead. The pulse was 100, temperature 100° F., and for the next ten days the temperature oscillated from 100° to 101.5° F.

On the fourth day the sutures were removed, the flaps having nearly united by first intention; there was a small amount of bloody discharge. Two days after this the patient got up and walked the whole length of the ward, and back again. During this time and afterwards the patient complained of pain in his head, of varying intensity, and occasionally was delirious at night. The discharge becoming purulent and quite abundant, the wound was syringed out with a weak solution of carbolic acid and water; this treatment was continued thenceforward daily, much to the relief and comfort of the patient. Pulsation of the brain was evident through the flaps.

The wound continued to heal kindly, with more or less suppuration, the flaps becoming depressed and glued down to the membranes, making a great cavity, and destroying whatever symmetry he had to his head. A few bits of necrosed bone came away from time to time. His headache was less frequent, and on the 10th of May, forty days after the accident, the note was made that "he sat up most of the time, and went out-of-doors on sunny days. Reading for a little while, the left eye became watery and troubled him; he also said his memory had become poor." He was discharged on the 20th of May, physically well. We cannot say how his present mental condition compares with his former.

Case II. *Compound Fracture of the Skull and Probable Fracture of the Base; Recovery.* — W. C., a school-girl, twelve years of age, was caught by her clothing by the belt of a planing-mill, running with great velocity and through a small square hole. In a short time after the accident she was brought to the hospital, and appeared to be in a state of profound shock; was unconscious, with pulse at 60, and weak. Her eyes were turned to the right, and pupils insensible to light; there was no paralysis. Rather profuse hæmorrhage from the ears, and from the mouth; there was also vomiting of bloody matter. Pressure over the right mastoid process caused great pain, and, to a lesser degree, the same over the left. There was a slight cut through the scalp over the left temporal region, nearly concealed by the hair, through which the probe detected a depressed fracture of the outer table, the space of which was small in extent. An hour after her entrance clonic convulsions of a few minutes' duration supervened, and there was screaming at intervals. Remedies suitable to this condition were administered; the prognosis was unfavorable.

After an hour or two the patient rallied, and recognized her friends. There was again vomiting of blood; the hæmorrhage from the ears continued for the greater part of the night, but ceased by the following morning.

The next day there was much improvement; the patient was conscious, and answered questions intelligently; she also swallowed a little brandy and milk. She complained of pain at the seat of fracture, and the left eyelid was swollen; the eye was closed. Her pulse was 60, and temperature 98.2° F. She slept much during the day.

On the next day the following note was made: "Slept well last night. Both eyes closed; no more hæmorrhage; takes nourishment well; is somewhat deaf, and answers questions slowly though intelligently; sleeps most of the time; complains but little of her head, to which an ice-bag has been constantly applied since entrance. Pulse 60, and stronger; temperature 98.6° F."

The day after this, April 5th, she complained of severe earache, and she was reported to have been somewhat delirious in the night. The temperature was still normal. There was swelling below and behind the right ear, accompanied with tenderness; there was also tenderness below the left ear.

April 6th; the swelling below the right ear had increased in extent, and the deafness was more marked. She was restless and singing during the previous night. Vacant expression. The bromide of potash, which had been given for a number of days previous, was increased.

On the next day the swelling above mentioned was slightly diminished. When asked to localize the pain which she complained of she put the tip of her finger over each mastoid process. The pupils were equal.

Seven days after the accident, the temperature was a little raised for the first time, 100° F.; it fell to normal, however, on the next day, and remained so. Facial paralysis was also noticed for the first time, the mouth being drawn a little to the right. This paralysis soon became more marked, the deflection of the mouth to the right being especially noticeable when she spoke. There was also an overflow of tears from the left eye, which she was unable to close.

April 9th the following note was made: "Looks brighter; pulse stronger, 90; complains of light through the curtains, which have been kept down."

From this time until her discharge she gained rapidly. Her appetite improved. The paralysis and deafness diminished, and she became brighter and more intelligent every day. On the 20th of April, nineteen days after the accident, she sat up for the first time. It was now noticed that in the meatus of the right ear, in which was the deafness, there was a fungoid growth of strawberry-like appearance.

May 2d, thirty-one days after the accident, she was discharged, nearly well. Her condition then was as follows: Hearing apparently perfect. Paralysis not noticeable except while speaking, when there was a slight deflection to the right. General health good. Still complained of occasional headache and earache. She could not read very long at a time. She has been seen several times since she left the hospital, and seemed to be perfectly well, just a slight paralysis at the corner of her mouth being apparent when she spoke.

CASE III. *Penetrating Gun-Shot Wound of the Head.* — E. M., a young man, twenty-nine years old, was brought to the hospital on the afternoon of the 12th of April with a small pistol wound in the right temporal region, self-inflicted, he having previously swallowed thirty drops of laudanum without effect. The act was done in the forenoon.

After some delay Dr. H. G. Clark, who was called, administered ether, made a crucial incision at the seat of the wound, and removed about two thirds of the bullet, all that could be found. The flaps being turned back, a small hole was seen, through which brain matter was oozing, and the pulsations of the brain were visible. When the patient was first seen at the hospital, in the afternoon, he was in a state of semi-shock, conscious but reticent. It was said, however, that in a little while after the operation he was quite relieved, and sensible for a time. The wound was left entirely open, a light, cold compress placed over it, and the patient put to bed. Subsequently an ice-cap was applied; the room was darkened, and bromide of potash given him.

On the next day the patient was quiet, though evidently conscious, for when asked if he wanted this or that he answered with a nod. There was considerable oozing from the wound. On the second day, however, he was delirious and in constant motion; carphologia, and a tendency to stertorous breathing, with a puffing out of the left cheek on expiration. The pulse was 64 and irregular; the pupils equal and contracted. As he took hardly anything by the mouth nutrient enemata were given.

From this time until his death, which occurred on the fourth day after entrance, all these bad symptoms were aggravated; there were also involuntary micturition and defæcation. The temperature reached 106° F.; respiration increased to 60, and became stertorous; the pulse irregular, feeble, and rapid, 160; convulsions more and more frequent, with frothing at the mouth.

Medical Examiner Draper made the autopsy eleven hours after death.

The temporal fascia and muscles were largely dissected up. The skull was very thin and soft, especially at the point of puncture. The bullet hole was ragged, and from a quarter to a half inch in diameter, beveled largely at the expense of the inner table. There was brain substance and a moderate sized clot outside of the dura mater, near the bullet hole. The brain under the dura mater, particularly on the opposite side from the entrance of the bullet, was thickly covered with pus and blood. What was apparently a bruise of the brain, about an inch square, existed at a point nearly opposite the point of entrance of the bullet, and a probe passed in here came out at the entrance hole, showing that the ball had traversed both hemispheres. By careful slicing the brain substance the track was exposed, showing a slightly upward direction of the bullet. The path was a perfect pulp. Splinters of bone were found in this track, some of them marked with lead. The remaining portion of the bullet was found an inch behind the track imbedded in brain substance. It had apparently rebounded from the interior of the skull, though no mark of impact was to be seen.

SHORT COMMUNICATIONS.

A CASE OF CYSTIC CANCER OF THE OVARY.

BY M. L. BROWN, M. D., NATICK, MASS.

Mrs. A., twenty-two years old, thin and spare, was married in August, 1877, and found herself in the following October in delicate health, with slight dyspeptic symptoms and difficulty in passing water; the bowels were constipated, as had always been her habit; menstruation was regular; the complexion was sallow and unhealthy. She was treated by a homœopath for some time, in the belief that she was pregnant, without relief.

About the middle of November she discovered an enlargement of the abdomen in the hypogastric region, which increased in size until she first came under my care on January 26, 1878. The abdomen was much enlarged, and rendered tense by a smooth, firm, rounded, immovable tumor rising from the pelvis. It was as large as the uterus at the fifth month. The catamenia were scant and irregular; the bowels moved daily.

In the following twenty days the growth increased very rapidly, and laterally there appeared irregular prominent semi-globular growths projecting from the central tumor. This rapid change led me to summon Dr. James R. Chadwick, of Boston, in consultation, who confirmed my diagnosis of ovarian disease. In view of the patient's poor general condition and the comparative smallness in the size of the tumor, he recommended the continuance of the tonic treatment and the postponement of operative measures. The patient improved somewhat in condition, although the tumor continued to grow until March 5th, when Dr. Chadwick, having detected a wave of fluctuation, inserted an aspirator to give temporary relief by the withdrawal of the fluid contents and to establish the diagnosis. Blood only escaped from the trocar, the end of which was felt to be immovable in the mass, thus indicating that it was of semi-solid consistency. Immediately suspecting cancer, we sent a small plug of tissue extracted from the trocar to Dr. Fitz for microscopic examination, but with negative results.

In less than two months the feet and legs became œdematous, the appetite capricious, emaciation extreme, and the breathing difficult. On May 18th we detected ascitic fluid, two quarts of which Dr. Chadwick removed with the trocar, at the same time expressing his conviction of the malignancy of the growth, and declining to extirpate the mass at the request of the family.

The patient failed rapidly, and died sixteen days later. Treatment consisted of Squibb's liq. opii comp., stimulants, and regulating diet, so as best to maintain her failing strength.

The history of this case from first to last corresponds with that given in Thomas's Diseases of Women for cystic cancer of the ovary, a rare form of cancer; so rare that in one thousand eight hundred and twenty-three cases of ovarian disease collected by Scanzoni but two were of cystic cancer. Treatment, either surgical or medical, tending towards cure avails nothing in these cases. They terminate fatally in less than a year. The duration of this case was about eight months.

Upon section of the body post mortem it presented the following appearance after removing about two quarts of ascitic fluid: An irregular globular encysted mass, nine inches in diameter, filled the abdomen and pelvis, pressing all the abdominal organs well up upon the diaphragm. The omentum was much congested, and that, together with the large and small intestines, the walls of the abdomen and pelvis, was thickly studded with diseased growths from the size of a buckshot to that of an English walnut. The liver was enlarged, and contained many masses of the same growth in its substance. On removing the encysted mass it was found to have grown from the right ovary; it nearly filled a common water-pail, and weighed twenty-five pounds.

Dr. R. H. Fitz microscopically examined a portion of one of the growths, and found it to be unmistakably cancerous, consisting of "innumerable small alveoli, in which were rather large round cells, many in a state of fatty degeneration, others having undergone mucous metamorphosis. There was hæmorrhage into the substance of the nodule."

LETTER FROM BALTIMORE.

Mr. Editor, — Two subjects are always at hand when all others fail, namely, the national crisis and the weather. The former it is not easy to distort into a medical theme, but the great dearth of news in Baltimore suitable for your Journal might tempt your correspondent to make use of the latter and enlarge upon the "heated term," more especially, of course, as regards its *rôle* in the ætiology of cholera infantum and insolation, were it not that in spite of the high registry of the thermometer the prevalence of these diseases has been upon the whole quite small as compared with previous years, and that the intense heat left us yesterday evening to give place to-day to much cooler weather.

The dog scare seems to occupy a large share of public attention just at present, and many are suffering from a very mild form of — shall it be styled "lyssaphobia"? or perhaps the mongrel expression "caniphobia" would fit better. However, the good people in question have taken it upon themselves to throw poisoned meats to the dogs, which is against the recent act of our Maryland legislature, and the president of the Society for the Prevention of Cruelty to Animals, Mr. Charles P. Montague, caused the presentment by the grand jury of certain parties guilty of the offense named; but when they were presented by that august body to the court, Judge Brown decided that he had no jurisdiction in the case, it being matter for a magistrate. No cases of real hydrophobia are reported as yet, although several persons have been bitten, among others the boy Willie Howe, who, having been seized with spasms at Reid's Hotel a few evenings since, was supposed to be suffering from hydrophobia, and consequently was removed to the City Hospital and given chloroform with the happiest result. After a calm sleep he was greatly improved. The convulsions, it was ascertained, had nothing to do with the dreaded disease, but were caused by calculi.

Our quarantine is remarkably empty. An American schooner from Matanzas — the Kate Rommell — was detained there a few days ago, as it was reported to the health department that when she left Matanzas she had a case of contagious disease on board which resulted fatally and delayed her sailing. The physician at the quarantine station reported yesterday that there was no sickness on board her at that time, but she will remain at quarantine until thoroughly disinfected. This time two years ago, when yellow fever was rife in our city, it was otherwise.

That never-failing nuisance, the basin, is taking advantage of the summer season and making itself as disagreeable as possible. Dr. James A. Stewart, health commissioner, made an inspection of it yesterday afternoon for the purpose of ascertaining how far contributions from sewers add at the present time to the causes of the bad odor arising from that source. He is of opinion that the nuisance as regards sewers has been greatly abated. Dr. Stewart will confer with the mayor regarding some means of affording temporary relief. The sugar refineries are now nearly all in operation. Last year only one of the refineries was worked, and the improvement in the condition of the basin was the subject of general remark. Some two years ago active measures were taken to prevent the flow of refuse matter from these refineries into the harbor, as it was discovered that this was the main cause of all the trouble. The evil will never be rooted out until an intercepting sewer is constructed with a view of preventing stagnation. The effect of the stench and filth upon the public health, it is strange to say, is *nil;* in fact, those parts are at *present* remarkably free from disease, but when the yellow fever made its appearance in 1876 the epidemic was confined to a portion of the city near the basin.

The vaccine physician for the ninth and tenth wards, Dr. J. H. Scarff, is engaged in making a critical analysis of the pump-water in his locality. The water from this pump is very much used for culinary and other purposes, and it is feared that it has become contaminated from the many sinks about.

Before closing, and apropos of water, it may be interesting to mention the Deep Rock spring water recently introduced to Baltimore. It is a water obtained from an artesian well at or near Oswego, N. Y. In order to secure it a bank of hard pan, thirty feet in height, had to be removed, and a bed of solid rock penetrated to the depth of over one hundred feet. The water was first obtained at great expense in 1870, and placed upon the market in 1871. As a beverage it has already found favor with the public, and is rapidly taking the place of Vichy, Kissingen, and Seltzer. It is slightly effervescent, and in taste is equal to the Apollinaris spring, being preferred to it by many, and possessing the advantage of a much more reasonable price. The water can be had in any quantity, and is shipped in barrels from the spring. As an adjuvant in the treatment of disease it is recommended by our first physicians. It is suitable in cases of renal and vesical affection, especially in those with slight irritation by which patients are obliged to urinate several times at night. Thus prescribed it will be found in a few days to check the desire, and subsequently to stop it altogether at night-time.

It is used in dyspepsia, in which disease it gives tone to the mucous membrane of the stomach and relieves the slight asthma dyspepticum often attendant. Deep Rock water should be drunk by those affected with acne. Its action is that of a diuretic, mild aperient, and alterative, slightly tonic, and may be taken in doses of two, three, four, or five glasses *per diem,* according to the nature of the case. The principal ingredients are, according to the analysis of Professor Douglas, of the University of Michigan: —

	Per Gallon.
Chloride of sodium	308.183 grs.
Chloride of potassium	149.084 grs.
Chloride of magnesium	10.244 grs.
Carbonate of lime	18.191 grs.
Silica	71.698 grs.

With traces of sulphuric acid, protoxide of iron, and free carbonic acid.

Total of solids per gallon . . . . 559.181 grs.

Temperature, 50° F.

BALTIMORE, *July* 12, 1878.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending July 20, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77
New York.	1,093,171	716	34.06	23.42	28.71
Philadelphia.	876,118	358	21.25	18.80	21.54
Brooklyn.	549,438			21.51	25.50
Chicago.	460,000	405	45.78	17.83	22.39
Boston.	375,476	202	27.97	20.10	24.34
Providence.	100,000	49	25.48	18.81	19.20
Lowell.	55,798	35	32.62	19.09	22.50
Worcester.	54,937	21	19.89	14.07	22.30
Cambridge.	53,547			18.69	20.83
Fall River.	53,207	34	33.23	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	10	15.31	16.02	19.77
Salem.	27,140	13	24.90	20.38	21.15

BOOKS AND PAMPHLETS RECEIVED. — The Obstetric Forceps: When and How to Use It. By George J. Engelmann, M. D. 1878.

Remarks on Ovariotomy, with an Appendix containing the History of Several Typical Cases. By J. W. Rosebrugh, M. D. Montreal. 1877. (Reprint from the Canada Lancet.)

A Hystero-Psychosis. Epilepsy dependent upon Erosions of the Cervix Uteri. By George J. Engelmann, M. D. St. Louis. 1878. (Reprint from the St. Louis Clinical Record.)

The Hystero-Neuroses, with Especial Reference to the Menstrual Hystero-Neuroses of the Stomach. By George J. Engelmann, M. D. St. Louis, Mo. (Reprint from Volume II., Gynæcological Transactions, 1878.)

The Soft Palate. Its Value in Diagnosis as compared with the Tongue in Derangements of the Liver, etc. By William Abram Love, M. D. (Reprint from the Transactions of the Medical Association of Georgia. 1878.)

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LECTURES.

CLINICAL LECTURE DELIVERED AT THE UNIVERSITY HOSPITAL.

BY WILLIAM GOODELL, A. M., M. D.,

Professor of Clinical Gynæcology in the Medical School of the University of Pennsylvania.

Perimetritis. — This patient is thirty-five years of age, and has been married for eleven years. She had her first and only child soon after her marriage. Since the birth of that child she has had four miscarriages, and has been a constant sufferer from cramps, dysmenorrhœa, pains in her back, leucorrhœa, dysuria, hysteria, painful defæcation, and pain in her sexual relations. Three months ago her monthlies ceased altogether. Her abdomen and breasts began to swell, and she had so much pain that she was obliged to call in a physician. He prescribed for her pills of iron and aloes, which very soon brought on her menses. She says that this physician told her that her chronic symptoms were due to some sort of inflammation of the womb.

The case looks very much to me like one of pelvic cellulitis. I shall at once proceed to make a vaginal examination. I find the cervix slightly lacerated, a result, undoubtedly, of the first labor. This laceration of the cervix — the purse-string of the womb — has been the cause of all her abortions. The cervix was not strong enough to retain the products of conception within the womb, and so they were aborted. This laceration is greater on the right than on the left side. Behind the cervix my finger impinges upon a very painful spot, — a tumor, — almost too elastic for a deposition of lymph, and yet I must examine further before I exclude that possibility. I insert one finger into the vagina, and with my other hand on the outside I make suprapubic pressure. My hand touches my finger in the vagina ; there is no womb between them. There is evidently a state of retroversion or retroflexion. The woman is very brave and stands pain heroically. What is the tumor which lies behind the cervix ? Is it an ovary prolapsed, or a deposition of lymph, or the fundus of the womb ? I can trace the womb up a considerable distance with my finger in the vagina. Here is the eleventh finger of the gynæcologist, — a prolongation of the index finger some would call it, — the uterine sound. I am going to pass it into the womb and see what the state of affairs is in the cavity. But this requires caution. The woman tells me that she menstruated only two weeks ago, but still I want to be on the safe side, and so put the possibility of pregnancy out of the question. Let me examine her breasts. The glands are not enlarged, and there is no more areola than is natural in a brunette. Pressure fails to show any secretion of milk in the breast. I think it will be altogether safe to pass the sound.

Ocular examination shows me that the cervix looks directly at me, bearing the relation to the vagina of a stopper to a decanter; this means that the womb is directly in the axis of the vagina, whereas it should be nearly at right angles to that channel. There is, I find by the course pursued by the sound, slight flexion and slight retroversion to the right. The sound entered with great ease. I can move the womb in all directions but one; moving it upwards gives rise to great pain. This means an adhesion posteriorly; the womb is bound down by the adhesion. I am making my examination with great gentleness, and yet it gives rise to considerable pain.

I will tell you the conclusion at which I have arrived in my own mind with regard to the case. Remember that I may hereafter be led to change my mind in this regard. There is without doubt an adhesion which binds the womb down in its position of retroversion. This adhesion has been the result of a perimetritis or pelvic cellulitis. The doubt which I feel is with regard to the tumor which I feel in the vagina. If this tumor were free to move it would not be nearly so difficult to form an idea as to its nature, but it is bound fast in its place. From its elasticity it gives to my finger the impression of a fluid. This being the case, I am led to tell you that I do not believe it to be a prolapsed ovary, but a quantity of lymph, not pus, the result of the perimetric inflammation, which was first effused and then imprisoned.

What shall be the treatment? The main symptoms to be met are the inflammation, the pain, and the loss of appetite. The first thing that must be done is to put the woman to bed and keep her quiet. Then flying blisters should be applied locally over the abdomen. The substances which I always use to raise blisters are cantharides and collodion. These should be first painted on a spot about the size of a silver dollar right over the womb. As soon as the blister begins to draw a mush poultice should be applied. The loose skin over the blister should be cut open, and if the skin comes away it will be necessary to put cotton over the raw surface. When three days have passed I shall order another blister to be put upon the left side of the abdomen, then another on the right, then begin again with a blister over the womb.

As concerns internal treatment, one twenty-fourth of a grain of the bichloride of mercury, with ten grains of the muriate of ammonia, should be given thrice daily in the mistura glycyrrhizæ composita. If the tumor should turn out to be a prolapsed ovary, I doubt if we can ever get it up again. There is no use for the common pessary in such a case. If I had the material here I could make a very excellent pessary from cotton which could be so adjusted as to hold the womb up. This cotton should be dipped in a solution of from one half to one grain of morphia in one drachm of glycerine. The morphia will allay the inflammation, and the glycerine will set up a copious watery discharge from the vagina. You will ask me, no doubt, why I do not at once put the woman upon iron. As a rule, I do not begin the treatment with iron in these cases. I first try always to get the better of the inflammation, and I then place the woman upon the following mixture: —

℞ Hydrarg. chlo. corros.	gr. i.	
Liq. chlo. arsenitis	f ʒ ss.	
Mist. ferri chlor.,		
Acid. muriat. dil.	āā f ʒ ij.	
Syrup.	f ℥ iij.	
Aquæ	ad f ℥ vi.	M.

S. One tablespoonful after each meal.

Iron sends the blood to the womb. As regards the prognosis, it is good so far as the prolongation of life is concerned. I am not prepared to say, however, that the woman will recover entirely. I might put her under ether now and forcibly lift up the womb, but the case is scarcely serious enough for such a heroic procedure.

Amenorrhœa from Arrested Development. — This puny little thing, who would generally pass for a stunted child of twelve years of age, tells me that she is twenty-one years old. Her mind corresponds in development with her body. I might be inclined at first to suspect the presence of rickets, but a careful examination of the patient puts that disease out of the question. The girl does not know how old she was when she began to walk, and can give me, in fact, but little of her early history. She says that her appetite has generally been quite good. She has come here to be treated for amenorrhœa. Her mammary glands and external genitals are entirely undeveloped. Her physical condition is wholly infantile, in fact. She has never seen her monthlies, and suffers from a good deal of weakness. The same cause which has produced her weakness has occasioned the absence of the monthlies.

The girl has been attending the dispensary for some time past. We ordered for her when she first came twenty-five drops of dialyzed iron and a tablespoonful of cod-liver oil three times a day. This medicine she says has done her a great deal of good. Her occupation consists in the painting of flowers. The paints used for that purpose very often contain arsenic. I cannot say, however, that she shows any symptoms traceable to this poison.

In looking still deeper for the cause of her present condition, we might find that her ovaries are undeveloped. Should such prove to be the case, and were it necessary that she should marry and have children; if, for instance, she were the only child of a wealthy family, then it might be right for me to make an examination of the parts. If I then found that both ovaries were undeveloped, or that there was only one ovary and that undeveloped, I should act in the following manner: I would irritate the womb by the use of sponge tents, and in that way endeavor to hasten the development of the organ. I am not warranted in so acting in this case. The examination would cause a great deal of discomfort and pain, and could only be conducted under ether. In closing, I should say to you that this case is one of exceeding rarity and interest.

THE VALUE OF ANATOMICAL APPEARANCES.[1]

BY R. H. FITZ, M. D.

The object of the present paper is to refer very briefly to some of the general points to be borne in mind in making an autopsy, and to consider the group of changes found in a very common form of death, — that from suffocation.

In the medico-legal examination of the dead body, the end sought for is a knowledge of the condition of the various organs of the body, that an opinion may be formed as to the cause of death.

The evidence offered is physical, relating to form, density, color, etc., and its appreciation necessarily implies a familiarity with the physical properties normal to the part in question.

The first stumbling-block is here met with, and often proves a serious one. The obstacle becomes the greater from the fact that even normal conditions may be materially modified by the presence of alterations resulting from a series of processes, — chemical and other, — which are generally grouped together under the head of post-mortem changes. How important these are is often seen in the difficulty of distinguishing between a hypostatic patch and the discoloration due to a bruise, upon which distinction is to depend our opinion as to the ante- or post-mortem origin of an injury. Similar doubts also arise in the examination of the internal organs, and whether a redness is the sign of an inflammation, or an opacity the result of a degeneration, often becomes a matter of vital importance.

It is not only the normal properties of organs and tissues which may be thus modified, but serious pathological changes may also become obscured. I need only refer to the difficulty of deciding whether a heart or a kidney has been the seat of a granular or fatty degeneration occurring during life, or whether the observed characteristics may not be wholly due to post-mortem alterations. A study, therefore, of the latter is as essential as is the knowledge of morbid appearances.

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[1] Read before the Massachusetts Medico-Legal Society.

Even when the examiner is perfectly familiar with normal and diseased appearances, as well as with those resulting from post-mortem processes, the results of his investigation may lose in value from his method of statement. It is the general tendency all the world over for the reporter to record his opinion and not his observation. In writing a description of the alterations found, the utmost possible attention should be paid to objective appearances. A dead body is an object of nature, one of an extremely composite character. It has been and is the seat of a great number of processes, some of which may have been the cause of death, while others represent a result of this condition. Those which have preceded death may have no very intimate connection with the same, and yet may produce a decided influence on the mind of the examiner from his knowledge of their sometime clinical importance. As the opportunities of most observers are mainly clinical, the tendency is a direct one to substitute clinical for anatomical and descriptive terms.

In a report of the examination of the dead body of a new-born child it is stated that the face was apoplectic in appearance. Such a description presents an opinion or judgment which is based upon several factors. Apoplexy has a symptomatic meaning, referring to being struck down, whence the common term apoplectic stroke. Since in many, though by no means in all, of these strokes intracranial hæmorrhages have been found, and were recognized as holding a causal relation to the result, the primary symptomatic significance of the word received a new meaning, and it became used as synonymous with hæmorrhage. As the stroke was found to occur without intracranial hæmorrhage, the congestive and serous apoplexies were formulated, whose value was largely clinical. From the predominant hæmorrhagic element in the first series, the pulmonary, splenic, and renal apoplexies were introduced to designate appearances resulting from the presence of abundant blood, although apoplectic symptoms were not connected. The clinical apoplexy was often associated with a flushed face, short neck, abundant fat tissue, stertorous breathing, loss of consciousness, and paralysis. Some of these conditions were thought to indicate the apoplectic habit or temperament, the possessor of which was liable to the stroke. The flushed face, as in the case of the infant referred to, has evidently been employed descriptively. A livid face, as we all know, indicates merely a disturbance in the circulation through the blood-vessels of the face, and may occur quite independently of any intracranial hæmorrhage, or hæmorrhage elsewhere. There is, therefore, strictly speaking, no apoplectic appearance of the face, and the livid hue may be due to numerous causes, particularly those interfering with the return of venous blood to the heart.

Another term which is much abused in the records of post-mortem examinations is inflammation. This is very often used in a purely descriptive sense. Inflammation of the lung, or intestine, or kidney, is stated as a matter of fact, whereas in reality an opinion is herewith expressed founded upon a number of facts. Inflammation, as we all know, represents a process, better still a sum of processes, which presents different appearances according to the stage, duration, organ affected, cause, etc. External inflammations have as very common factors redness and swelling. These are readily transferred as the essential features in describing the condition of the internal organs. But redness and swelling may both be present without any inflammation. The frequent inflammation of the intestine often owes its existence in the records to the presence of blood and fluid in the walls of the intestine, especially within the mucous membrane. Both these appearances often occur here, as elsewhere, as purely post-mortem phenomena. They may result from gravitation, from the distribution of the intestinal gases and other contents, in consequence of which blood is forced from those coils of intestine which are distended with gas, and accumulates in the portions of the tract from which the gas has escaped. To justify the opinion that there is inflammation, therefore, other facts are necessary, and would be present were the results of inflammation actually met with. After death there is no inflammation. That it may exist, vital processes in the organs and tissues of the body are necessary, and the anatomist seeks for the evidence which these processes have left behind in such parts.

Still another misused term may also be mentioned in this connection. The redness of an external inflamed part is called congestion, and as this is due to an increased quantity of blood in the part, the same term has been employed to represent that condition in general. As this increased quantity of blood has attracted attention chiefly from its clinical importance, the active and passive congestions have been discriminated, — those due to a flux of blood and those due to a prevented escape of blood. After death organs are often found to contain an increased quantity of blood, and the term congestion is commonly applied to this condition. The qualifications, active and passive, are no longer applicable in the same sense that they were during life. Then they represented nerve force, cell activity, muscular irritability, and mechanical influences of various sorts. Now most of these have ceased, though mechanical influences may still be present, and are of great importance in determining the post-mortem distribution of blood.

The appearance is primarily that of color, which is due to the presence of blood coloring matter properly within the vessels.

This distinction, however, is not always borne in mind, for one reads of a congestion of the aorta, referring merely to a diffused, dirty-red color of the inner surface of the artery. The nutrient vessels of this trunk are not sufficiently large to be visible to the naked eye; the color therefore might still be considered as due to blood within them. Microscopic examination shows that such is not the case, but that the color is due to a uniform staining of the tissues of the wall with blood coloring matter which has escaped from the corpuscles. From the limitation of the color, its position, and the association with other changes it is evident that this congestion merely indicates the post-mortem decomposition of the red blood-corpuscles and the escape of their coloring matter into the surrounding parts.

Where observers are still more exact in their use of language they apply the term congestion to the presence of blood within vessels visible to the naked eye. But as congestion is generally of clinical significance, and is dangerously suggestive of inflammation, it would be preferable to eliminate it from post-mortem terminology and substitute the word injection. Herewith we have purely the result of a physical process, which may occur after death as well as during life, the causes, however, being widely different. Some of them — as gravitation and the effect of intestinal gases — have already been alluded to. Others may be mentioned which also give evidence that a circulation of blood may take place after death. A recognition of this possibility becomes of exceeding importance in determining the origin of certain peculiar appearances which are not rarely confounded with those resulting from disease.

It is very well known that after death the arteries are usually found comparatively empty, while the veins contain a considerable quantity of blood. This differing relation is generally attributed to the post-mortem contraction of the thick muscular coat of the arteries, which serves to push the blood along in the course of the circulation, that is towards the veins. This represents, however, merely one step in the process. The relatively empty arteries are commonly the larger ones, while in the smaller arteries, as those at the base of the brain, a considerable quantity of blood may be present, and can even be withdrawn in the form of a clot. When this clotting has actually taken place the opportunities for a post-mortem arterial circulation are no longer favorable. Any contraction of the wall now serves merely to squeeze from the moist clot its liquid contents, which may either be pushed along or soak through the arterial wall into the surrounding tissues. On the venous side, however, the blood is largely fluid, particularly that within the smaller veins. It is therefore capable of being urged on not merely by the arterial *vis a tergo*, but also by the rigidity taking place within the voluntary muscles. Through their post-mortem action and the presence of valves the blood tends to flow from the extremities towards the heart, this tendency being favored by the presence of causes opposing rapid decomposition. The passage of blood towards the heart is still further promoted by the development of gas within the intestine. The more abundantly this forms the greater is the intra-abdominal tension, and the movable contents of the abdominal canals seek to escape through their outlets. The contents of the stomach are found in the mouth, those of the rectum and bladder at the external openings of these viscera, while the transmission of pressure through the walls of the inferior vena cava causes the inclosed blood to be pushed upwards into the heart. This blood may be movable, even if clotted, and the presence of homogeneous, soft, dark, curved, and laminated clots in the right auricle thus meets with the most ready explanation.

After the examiner has made a thorough and accurate study of the body the opportunity is presented for the formation of an opinion as to the cause of death. That this may be ascertained it is often necessary to obtain additional information with reference to the symptoms which preceded death, that is of the manner of dying. When severe injuries have been inflicted it is customary to attribute death to these. Yet we all know that injuries of the same apparent severity are by no means of equal gravity. Although we may be unable to determine why death should have taken place in any given instance, we are always called upon to seek for evidence of the manner of dying, and not unfrequently from the anatomical and histological appearances an opinion may be formed of considerable relative value.

It is the general custom, not only for the forensic but for most physicians, to use certain formulæ, which nominally express the cause of death, though in reality merely stating its existence. It is said to result from violence in consequence of certain injuries, or is caused by paralysis of the heart and lungs, in the absence of any evident injury. It may be due to inflammation, congestion, anæmia, or blood-poisoning. Death is assumed to result from a failure in the action of the brain, lungs, or heart, that is from coma, asphyxia, or syncope ; and the question therefore naturally arises, Can we determine from evidence found after death whether this statement contains a certain amount of truth ?

We are told that in death from syncope the heart is supplied with an insufficient quantity of blood, and consequently its action ceases. The anatomical appearances are said to be a normal proportion of blood in the two sides of the heart, and the presence of blood in the arterial and large venous trunks.

In death from asphyxia, on the contrary, defective blood is furnished to the various organs of the body in consequence of an obstruction to the entrance of air into the lungs. The appearances described as characteristic of this form of death are an engorgement of the right side of the heart, and of its feeding and distributing vessels, with an empty condition of the vessels and cavities carrying arterial blood. In certain cases of asphyxia, however, the cavities are said to have been found empty, and the term syncopal-asphyxia is offered to express this condition. The indications of death by the brain are to be found in a congested condition of the brain and its membranes.

This time-honored classification of the causes of death may be considered as having little more than a clinical significance. The terms are indicative of symptoms, for in syncope the person is cut down as in apoplexy; in asphyxia he is pulseless; and when comatose he is profoundly asleep. All of these conditions may occur more or less suddenly, and may last for a longer or shorter time. What is of especial importance at present is the general absence of anatomical evidence characteristic of the sole existence of the one or the other of these conditions during life. Pathological changes in the brain, either acute or chronic in character, may undoubtedly give rise to a paralysis of respiration and circulation, and it is by no means easy to obtain evidence as to which of these processes was the first, or which the most affected. The eventual result is the same: the production of such changes in the composition of the blood that it is no longer properly aerated and decarbonized. Disturbances in the functions of various organs of the body result, difficult breathing being a prominent symptom, and death is to be regarded as due to suffocation. The popular idea of the meaning of this term is limited to an obstruction of the air passages by foreign bodies acting from without or from within. Suffocation, however, is rather a condition composed of a group of symptoms, due most probably to an accumulation of carbonic acid in the blood and a diminution in the quantity of oxygen. It may result from causes preventing the admission of atmospheric air into the lungs, from those hindering the free circulation of blood in the lungs, and from those rapidly withdrawing oxygen from the blood.

In the first and last series are to be found the causes which are particularly important to the medical examiner, as they include cases of death from violence, injury, and certain poisons.

Writers on medical jurisprudence differ considerably in their statements as to the value of anatomical evidence in determining suffocative death. Most pathologists, however, would probably agree that the group of appearances to be met with is sufficient to establish the diagnosis in the majority of cases. The single appearances may be very considerably modified by the length of time during which death was taking place, the condition of the person at the time of impending death, and that of the air passages at the moment of death. They all relate to the condition of the blood and to that of certain organs in consequence of its altered composition.

A dark color and fluidity are the two most striking characteristics of the blood in cases of suffocation, and have long attracted attention. The former is of apparent value rather than of real importance, as all blood is dark after death, unless its coloring matter has been previously modified by certain substances, notably carbonic oxide gas. The dark color is particularly noticed at the autopsy, in consequence of the usual increased quantity of blood found in the right heart, and its fluid condition.

When death occurs under other circumstances and the blood clots, a gravitation of the red blood-corpuscles generally takes place, and the light and dark portions of the clot are differentiated. The lighter portion of such a clot may so predominate under various conditions that, in extreme cases, as in leucæmia, the blood may bear a resemblance to pus.

The dark color is not therefore to be regarded as due to any vital conditions, impregnation with carbonic acid gas, or deficiency of oxygen previous to death, but merely as a characteristic of the blood of dead persons in general.

The fluidity of the blood is of far greater consequence as a sign of death from suffocation, and is very constantly observed in the right side of the heart and in the vessels connected with it. We have but little positive knowledge as to the cause of the fluid condition in these cases, nor can we regard the appearance as of absolute value. Liquid blood may be present when death has not been the result of suffocation, and in undoubted cases of death from suffocation the blood has been found clotted. An important element in the origin of the latter exception to the rule seems to lie in the length of time between the action of the suffocating cause and the event of death. In gradual death from suffocation the right auricle and ventricle may contain clotted blood; so that the presence of such blood is not opposed to the theory of suffocative death.

Another important condition very commonly met with is the distention of the right side of the heart and its communicating vessels. The immediate cause of this distention is generally considered to be a paralysis of the right side of the heart and the consequent accumulation of blood. It is to be remembered, however, that death from suffocation may take place without any decided distention of the vascular territory referred to, as when anæmic persons die from suffocation. It seems further not unlikely that the heart may contain less blood in those cases where it continues to beat after the action of the respiratory muscle has ceased. The accumulation of blood in the venous canals, including the pulmonary artery, is a direct result of the distention of the right side of the heart. The coronary veins often project as prominent, rounded cords, the pulmonary artery and its branches are dilated, and the lungs themselves frequently appear gorged with blood from the filling of the smaller vessels within these organs.

This venous engorgement of the lungs, though perhaps occurring in the majority of cases, is still by no means a constant appearance. When present its origin is most probably due to violent inspiratory efforts, which, if accompanied with a closure of the air-passages, necessitate an aspiration of venous blood into the thorax, and its entrance into the lungs, supposing the heart to be at work. It is therefore apparent that the engorgement of the lungs is more likely to occur when death immediately follows a closure of the air passages, and especially when the closure takes place towards the end of expiration, at which time there is comparatively little air in the lungs and more room for blood.

If, however, the cause of suffocation is an embolism of the pulmonary artery, the entrance of venous blood is prevented, while air is allowed free admission. In such cases of suffocative death the lungs may even be anæmic. So when the suffocation is connected with œdema of the lungs or with the free admission of water through the bronchi, as in death from drowning, a less quantity of blood would necessarily be present than when the blood-vessels were more capable of distention.

Other appearances met with in the air passages present a relative value: these are the injection of the vessels of the larynx, trachea, and bronchi, emphysema, sub-pleural ecchymoses, and the form of the epiglottis.

The injection of the blood-vessels is evidently largely due to the same causes which produce the venous engorgement of the lungs, and requires no further consideration. The sort of emphysema which is of especial value is the interstitial variety, where air bubbles are present within the connective tissue of the lungs, the walls of the air passages having been ruptured by the violent respiratory efforts. Groups of alveoli may also be widely distended, and then appear somewhat prominently when the surface of the lung is examined. The latter condition may be present when death is occasioned in other ways than by suffocation; the former is very commonly absent; and both must not be confounded with the presence of gas in consequence of putrefactive changes. The ecchymoses have attracted great interest, and have generally been attributed to extreme pressure within the walls of the smaller vessels, consequent rupture, and resulting minute hæmorrhages. Of late years stress has been laid upon their origin, in part at least, through vaso-motor disturbances, spasmodic contraction of certain vessels, and collateral hyperæmia of others. As is well known, these ecchymoses may be found not only beneath the pleura, but also in the pericardium, tracheal and gastric mucous membranes, and more rarely in the peritonæum and elsewhere. It has been supposed that they were the result of suffocative death from violence, a view at present to be regarded as obsolete, from the accumulated evidence in opposition. It may also be said of these ecchymoses that when present they are of value; when absent, death from suffocation may still have taken place. Even when present they merely represent a state, minute hæmorrhages, which may arise in consequence of injuries, or of various diseased conditions attended with an abnormal relation of the vascular walls to their contents.

It is stated by Orth that in all forms of death from suffocation the epiglottis undergoes a constant change in form, manifested by an approximation of its edges, giving rise to a wedge-shaped appearance. I find no mention of this peculiarity in the most recent works on medical jurisprudence, and have no personal experience which permits me to form an opinion as to the value of this sign.

Additional evidence of death from suffocation is to be found in the venous engorgement of the brain, liver, and kidneys, one or more of which organs very generally present appearances indicative of the presence of an unusually large quantity of blood. The conditions which prevent an emptying of the right heart tend to cause an accumulation of blood in these organs. The importance of the recognition of the degree of injection of the vessels of the brain in all cases is apparent, and the desirability of examining the brain before the thorax and abdomen are opened is well recognized. In general, when death results from suffocation a bluish marbling of the brain and unusually prominent and abundant *puncta cruenta* are appearances to be sought for. They are sometimes wanting, however, and their absence does not exclude the possibility in question. An œdematous brain may be present in cases of suffocative death, and is usually associated with a diminished vascular injection. It has been demonstrated experimentally that an actual anæmia of the vessels of the pia mater may immediately precede death from suffocation, and observation with the ophthalmoscope has shown diminished contents of the retinal vessels during the dyspnœa antecedent to death.

Finally, the injection of the liver and kidneys remains as one of the constant appearances, and is essentially due to the engorgement of the right side of the heart. The injection of the kidney is perhaps the more striking as but little blood oozes from this organ during its examination. From the liver, on the contrary, a considerable quantity escapes through the cut inferior vena cava before the organ is removed, supposing the usual method of examination to take place.

In conclusion, brief mention may be made of certain external appearances which have attracted more or less attention, but which are to be regarded as of wholly secondary importance. First among these is the livid hue of the skin, especially that of the face, though prominent elsewhere as unusually large and numerous hypostatic spots. Ecchymoses are also occasionally met with, and stress has been laid upon the protrusion of the eyeballs. These modifications in the distribution of the blood are subject to so many variations, including entire absence, that but little weight can be attached to them. When present they are apt to be associated with diffuse staining from early putrefaction, which becomes more extensive when the general conditions favoring rapid putrefaction are present, as warmth, moisture, free access of air, and the existence of some infective disease. The accumulation of much blood at the surface of the body and the occurrence of suffocation in many relatively healthy individuals, especially full-blooded ones, are the important causal factors explanatory of early putrefactive changes in these cases of suffocative death.

The position of the tongue, between or behind the teeth, is of comparatively little consequence, owing to the irregularity of its presence between the teeth in death from suffocation, and to the fact that this position is assumed when death is the result of other conditions.

Another appearance frequently mentioned is the presence of a scum or froth over the mouth or nostrils. This is evidently due to the escape from these openings of a more or less viscid fluid, in which numerous bubbles of air are contained. As the fluid portion evaporates a crust is left adherent to the skin. This appearance is often seen in cases of death from drowning, though also met with when death results from natural causes, and is most commonly observed during warm weather. It merely indicates that mixed fluid and air or gas are escaping from natural canals of the body, the escape being promoted by putrefaction of the abdominal contents, particularly of those in the intestine. This froth may proceed from the lungs or stomach, or from both. In death from drowning the trachea and bronchi contain a considerable quantity of air and water, the latter readily becoming viscid from its admixture with mucus or albumen. As drowning most commonly takes place in summer, when the temperature favors early putrefaction, the contents of the lungs are forced out by the abdominal distention. In death associated with œdema of the lungs the same phenomenon may be observed.

The contents of the stomach, likewise, if fermenting or putrefying with the abundant formation of gas, may escape outwards through the œsophagus, — in part from the intestinal pressure, in part from the volatility of the gases produced. The recognition of this possibility of the escape of the contents of the stomach after death is of considerable importance, as it is possible for a portion of them to enter the lungs from above, and there give rise to changes which have been mistaken for diseased conditions. Further, when the group of appearances suggests death from suffocation the finding of particles of food in the air passages might be considered as giving evidence of the production of suffocation through the inhalation of the contents of the stomach. In the post-mortem process the food is usually in a state of very fine division, whereas coarser particles are apt to be found when the inhalation has taken place under other circumstances.

It is evident, therefore, from the previous consideration that there is no absolutely characteristic appearance in death from suffocation, but that the group of appearances mentioned offer strong presumptive evidence. Dark liquid blood; vascular engorgement of the right side of the heart, the lungs, liver, kidneys, and brain; injection, even extravasations, of the mucous membrane of the larger air passages; sub-pleural and sub-pericardial ecchymoses, with perhaps the wedge-shaped appearance of the epiglottis, form the series of changes, most of which will be found. The more sudden the death from suffocation, the more distinct are these appearances.

The diagnosis of death from suffocation being made, it remains for the examiner to bear in mind the three groups of causes, and his attention can then readily be directed to that which is of especial consequence in the determination of death from violence. The causes of suffocation important in this connection are those whose action prevents the admission of atmospheric air into the lungs. These may evidently act from without, as in cases of compression of the trachea or thoracic walls, and from closure of the mouth and nostrils; or from within, as in drowning or the admission of foreign bodies. The suffocation resulting from violence may also occur when serious injuries have been inflicted either upon the thoracic walls as perforating wounds, or upon the nervous centres as in cerebral injury.

The presence of additional evidence leads to the prime cause, and this evidence necessarily varies according to the nature of the case.

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RARE CASES OF STRANGULATED HERNIA.

BY GEORGE W. GAY, M. D.,
Surgeon to the Boston City Hospital.

I. *A Case of Strangulated "Recent" Femoral Hernia in a Man; Reduction by the "Minor Operation;" Recovery.* — Mr. X., a policeman, aged forty-four years, noticed a small lump in the right groin, and experienced a sense of uneasiness in that region on Thursday, October 5, 1876. Friday evening the pain and restlessness were so severe that he sent for his family physician, Dr. O. W. Doe, who at once recognized the serious condition of the patient, and took prompt measures for his relief.

We saw the patient about thirty hours after the commencement of the symptoms. He was restless and had some nausea, but no vomiting as yet. There was a tense, painful tumor of the size of an English walnut in the right groin, just below Poupart's ligament, and over the saphenous opening. Coughing gave an indistinct impulse to the tumor; it was free from induration, and somewhat movable. None but small, unsatisfactory dejections had been passed since the affection began. The patient had never had a rupture, and the cause of the present one seemed to be a severe cough of a few weeks' duration.

Ether having been administered, a vertical incision about two inches long was made over the tumor, and on dividing the skin and superficial fascia the hernia, inclosed in the fascia propria, was readily seen protruding from the saphenous opening. A grooved probe was then passed into the crural canal behind the tumor, and swept round to the front underneath Hey's femoral ligament. Slightly dividing this structure and making gentle taxis upon the sac, its contents suddenly and easily slipped back into the abdominal cavity. The sac was replaced very readily, the wound closed with silk sutures, and a compress and bandage applied.

On the day following the operation the bowels moved freely, and there was some vomiting. The pulse on the third day was 120, and the temperature 103.4° F. Although this patient had no well-marked peritonitis, yet there was considerable local disturbance about the wound, and he was in a precarious condition for ten days. After that time he improved rapidly, and was out in about a month, but did not resume work for two months. He is now wearing a truss, has no rupture, and is apparently well.

II. *Strangulated Femoral Hernia, consisting of Bowel and Omentum; Operation; Recovery.* — J. B., forty-eight years of age, a thin, spare man, entered the hospital August 16, 1877. A small tumor had existed in the right groin a year or more, varying a little at times in its size, but never wholly disappearing. There had been no symptoms of strangulation until five days previous to his entering the hospital, when he was seized with abdominal pain, vomiting, hiccough, and constipation. The patient had walked to the hospital, was not under the influence of opiates, and was suffering little pain.

Over the right saphenous opening was a small, hard, reddened tumor, which was irreducible, and gave little impulse on coughing. The abdomen was tympanitic and somewhat tender. Pulse 74; temperature 98° F.

Although this patient's symptoms were not urgent at the time of his admission to the hospital, yet they evidently had been so two days before. It was decided, in a consultation, to explore the tumor and ascertain its character, and be governed accordingly.

The patient having been etherized, the sac was opened and found to contain a knuckle of intestine concealed in a mass of adhering omentum. Both structures were of a deep maroon color. On dividing the constriction at the crural ring the bowel was easily returned; the omentum was left in the sac, a ligature being placed around a portion of it. The wound was partially closed with sutures, and a bandage applied.

Five hours after the operation the patient was delirious and very cyanotic all over. Pulse 144; temperature high. There was some diarrhœa, and he had vomited a yellowish liquid which was very offensive and resembled the so-called "stercoraceous" substance so commonly ejected in the later stages of strangulated hernia. His condition at this time was extremely unfavorable. He was ordered small doses of opium and tincture of aconite root every hour.

The next morning the patient was conscious, and free from pain. Pulse 96; temperature 99.5° F. The cyanosis had entirely disappeared. Diarrhœa and vomiting stopped. Taking nourishment well.

Aside from retention of urine the convalescence was steady and satisfactory. A yeast poultice was applied to the ligated omentum until the slough came away.

The wound was healed in six weeks, and the patient was discharged in two months, wearing a truss with a water pad, in a very comfortable condition.

III. *Strangulated Inguinal Hernia (Omental) in a Woman; Operation; Recovery.* — On Saturday, August 18, 1877, we were asked by Dr. J. E. Walker to see Mrs. ——, a Dutch woman, aged thirty-one years, who gave the following history of her affection: The previous Tuesday she walked a good deal at the sea-shore, and got very tired; Wednesday she felt poorly, and at night was wakened by a severe pain in the abdomen; Thursday she noticed for the first time a small lump in the left groin.

Over the external abdominal ring on the left side was a single, tender, movable tumor the size of an English walnut. It was irreducible, free from induration in the cellular tissue, and gave little if any impulse on coughing. The ring appeared to be obstructed by the tumor. There had been but one stool since the affection began, and she had vomited once. The patient was anxious, restless, and suffering, so that it was with difficulty that she could stand or walk.

Ether was administered, and after a rather tedious dissection, due to a large amount of fat and the general obscurity of the parts, a well-defined sac was opened, and found to contain a mass of dark-brown omentum the size of a pullet's egg. It extended along the inguinal canal into the abdomen, and was pretty firmly attached to the walls of the sac. All constriction was removed by slightly enlarging both rings, and the hernial contents were allowed to remain *in situ*. The wound was left open and covered with a light compress. She was ordered opium suppositories every four or six hours, as required, liquid diet, and catheterization.

The patient had some peritonitis on the left side, as shown by localized tenderness, swelling, and tympanites, with a temperature of 102.6° F., and a pulse of 130. The bowels moved on the fifth day. A portion of the omentum sloughed away. The wound closed in six weeks. She has worn a truss since the first of November, with no signs of a recurrence of the affection.

Fortunately, ruptures like that reported in the first case are as rare as they are dangerous. The femoral rings and canal are so narrow and unyielding that strangulation is very apt to follow shortly the descent of the viscus. The favorable result in the above case was largely due to the fact that the diagnosis was made early, the taxis was brief and gentle, the operation was performed before the symptoms became severe, and the sac was not opened.

It will be noticed that the incision in this operation did not even extend through the fascia propria. Sir Astley Cooper advised the opening of that membrane in all cases, while later writers, as Mr. John Birkett and Mr. Bryant, advise us to enlarge the crural ring before dividing this fascia, and to try to reduce the rupture. Should this not be successful, the fascia is to be divided and the ring enlarged again. This failing to let the rupture return to its place, then the sac is to be opened, the constriction relieved, and the hernia reduced.

The "minor" operation, as it is called when the sac is not opened, has had its "ups and downs" ever since it was introduced to the profession by Petit, more than a hundred and fifty years ago. Its advantages are that the cavity of the peritonæum is not opened, that there is little danger of peritonitis or of wounding the bowel. Its disadvantages are that the rupture may be returned without the strictures having been removed, when the result would probably be fatal; or a gangrenous mass might be returned to the peritoneal cavity, which had better remain outside.

The operation, as regards danger, is simply that of taxis complicated with a superficial wound not involving the sac. It is adapted more particularly to recent femoral herniæ, with the stricture at the saphenous opening. In such cases the operation is very successful.

In performing this operation there are two points of great importance to be borne in mind. After dividing the skin, superficial fascia, and fat, the rupture covered with the fascia propria at once presents itself. It is to be remembered that the proper sac of the hernia lies *beneath* this fascia, and is separate from it. Again, on manipulating the tumor, after the stricture has been divided, great care should be taken to allow the *contents* of the sac to recede into the abdomen before the sac itself is replaced; otherwise we can never feel sure that the constriction has been removed.

The second case was without doubt an omental hernia originally, complicated by the descent of the intestine on, or shortly before, the advent of the symptoms of strangulation. These cases of omental hernia in the femoral region are not only rare, but oftentimes their diagnosis is exceedingly difficult. We have under observation at the present time the following case: —

IV. A gentleman about twenty-eight years of age, a lawyer, first noticed a small bunch in the right groin after great fatigue from prolonged walking at the Centennial Exhibition. The appearance of the affection was preceded by an ordinary attack of indigestion, as he supposed, to which he is occasionally liable.

The tumor was seen by the writer three or four days after its first appearance. It was an inch and a half in diameter, irregular, firm, irreducible, and thought to have an indistinct impulse on coughing. It was movable to a moderate extent, but evidently had a firm attachment at its base. The tumor was situated over and blocked up the saphenous opening in the fascia lata. Its manipulation was attended by a peculiar distress in the lower part of the abdomen. There was no induration of the surrounding cellular tissue, nor affection of the neighboring glands; no injury or lesion of the foot and leg, and no venereal disease.

The diagnosis was an omental femoral hernia: a hernia, because the history, appearance, and symptoms did not coincide with those of an enlarged gland, an abscess, a growth, a cystic tumor, an aneurism or varix, or any other affection ever found in this region; omental, because of the uneven surface of the tumor, its imperfect impulse, and the absence of symptoms of obstruction and strangulation.

Dr. Fifield has described the dissection of an omental hernia to which our case would seem to bear a strong resemblance.[1] In his subject, the end of a long rope of omentum passed through the crural canal, and formed a small tumor over the saphenous opening. It was strongly adherent to the sac. Although the omentum elongates and accommodates itself to the new condition of things in these affections, yet there must always remain more or less danger of inflammation and strangulation. "Irreducible herniæ are treacherous things."

The third case reported above, as well as the second, goes to prove the soundness of the old rule, that an irreducible tumor occurring in a region subject to hernia, and accompanied by pain, vomiting, and constipation, demands an exploratory operation. Should the affection prove to be other than a hernia, which, by the way, it very seldom does, no great harm would be done; whereas, in case of a rupture, the operation might save life. At all events it would give the patient the very best chance for recovery.

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[1] Vide JOURNAL, March 4, 1875, page 255.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.

BY F. I. KNIGHT, M. D.

Bilateral Paralysis of the Posterior Crico-Arytenoid Muscles. — This affection is so serious, though fortunately comparatively rare, that we feel that our readers will be glad to see the full reports which follow of cases and discussions upon them. Though rare, a case may happen to any practitioner. The pathology is still little understood. Dr. B. Fränkel[1] says that, without noticing the strictures which may be due to spasm, the inspiratory stream may find the glottis closed (1) in bilateral paralysis of the posterior crico-arytenoid muscles, (2) in diseases of the cartilage or articulation, (3) in perverse action of the muscles of the glottis (a cause not observed before). The appearances in the first class of cases have been often described. Fränkel contributes four cases. He says that the posterior crico-arytenoid muscles evidently have nothing to do with the fixation of the glottis for phonation, as has been stated by some authors, for this takes place perfectly in case of paralysis of the above-mentioned muscles. One of his patients could produce high falsetto notes. (2.) Diseases of the cartilages and joints producing this position of the glottis arise as perichondritis of the cricoids and arytenoids, the most frequent cause of which is an infectious disease, especially typhus. Phthisis, which is the most common cause of perichondritis of the larynx in general, seldom leads to a permanent approximation of the vocal cords, it usually affecting the region of the vocal processes; and although perhaps producing swelling and obstruction, it does not cause inspiratory approximation of the vocal cords. In cases of typhus, however, the perichondrium of the posterior surface of the cricoid is frequently involved, and the insertions of the posterior crico-arytenoid muscles are destroyed, or the crico-arytenoid articulations themselves may be diseased. The author introduces a case in which the diagnosis from simple paralysis was made easier by changes in the relative position of the arytenoids. The sound showed that there was no anchylosis, so it was considered to be a case in which the attachments of the muscles were affected. Fränkel gives the following example of the third class of cases: A nurse, twenty-eight years old, who had had typhus in the army during the Franco-Prussian war, but had made a good recovery, took diphtheria in the hospital in 1874; it affected the pharynx, and probably the larynx also. From the effect of this he never completely recovered; hoarseness, dyspnœa, and stridulous inspiration remained. The diagnosis of paralysis of the posterior crico-arytenoids had been made. The hoarseness grew better gradually; the stridor and the dyspnœa, however, persisted in varying intensity.

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[1] Deutsches Zeitschrift f. prakt. Med., 6 u. 7, 1878; Schmidt's Jahrb., 1878, No. 4.

Fränkel saw the patient in March, 1877. There was evident stridor with every inspiration; no cyanosis. He instinctively avoided any quick movements, as they increased the stridor. He was not hoarse, but spoke with a weak, interrupted voice; that is, after a few words he would make a pause, during which occurred a stridulous inspiration, and then would come a few more words, and so on. The patient was anæmic, weak, and tired from disturbance of sleep. The examination with the laryngoscope showed that the glottis closed with every inspiration and opened with expiration. During inspiration the cords lay close to each other, and were drawn down and set into visible vibrations. There could evidently no longer be a question of paralysis of the posterior crico-arytenoids. On phonation, which occurred mostly during expiration, the vocal cords flapped asunder, and quite a normal (?) voice was produced. At the end of respiration the patient usually ceased speaking, the vocal cords separated again, and at the beginning of inspiration were again approximated. The left side and posterior wall of the larynx were anæsthetic. Sensation was also diminished to a less degree on the right side. Pressure downward on the pomum Adami increased the stridor and dyspnœa; also on the cricoid cartilage. The same effect was caused by electricity and bromide of potassium. The subcutaneous injection of morphia afforded "considerable relief," but increased the stridor to a great degree. There was no possibility of malingering in this patient, although Fränkel, by autolaryngoscopy, convinced himself that one can by practice voluntarily produce such perverse movements of the vocal cords. The affection in this case could not be considered hysterical.

Guttmann, in the discussion which followed this paper, said [1] that he had seen two cases of bilateral paralysis of the posterior crico-arytenoids in hysterical patients. A cure took place in a short time without tracheotomy. Waldenberg remarked that paralysis of these muscles occurred much more frequently than would appear from the few cases published.

Dr. Felix Simon read a paper at the meeting of the clinical society of London, on the 12th of April, 1878,[2] on bilateral paralysis of the posterior crico-arytenoid muscles, and presented a patient with the following history: He was a railway inspector, aged thirty-two, who had enjoyed good health till two years ago. Having been subject to severe colds, he was one day seized with an attack of violent cough, followed by slight dyspnœa. Although the symptom disappeared quickly at that time, it has since then appeared more and more frequently. At the present time the breathing is somewhat impaired permanently. Cough, with consequent deep inspiration, is sure to bring on a more or less severe attack of dyspnœa. Lately some other symptoms have appeared. The patient is drowsy; he complains of weakness, itching, numbness, and fibrillar convulsions in both legs, especially in the left, and sometimes of slight incontinence of urine. There is slight ptosis of the left eyelid. The left pupil is smaller than the right, the left naso-labial fold more distinctly visible, and the left oval angle a little lower than the right. His gait is uncertain. The laryngeal symptoms were also demonstrated (permanent slight inspiratory dyspnœa, which was much increased when the patient was told to cough; easy respiration and unimpaired voice), and Dr. Simon described the laryngoscopic appearances of the glottis (rima glottidis much smaller than normal; complete approximation of the vocal cords during phonation; if deep inspiration be attempted the cords separate only a very little from each other, and return at once to their former close approximation. The act of separation is effected, not by a continuous movement, but by several oscillations). This case was the sixth observed within the past ten years by Dr. Simon at the hospital for diseases of the throat. All the patients were men between thirty and sixty, and, with one exception, they had suffered between three months and two years before coming to the hospital. The exception occurred in a case of undoubted functional paralysis of the posterior crico-arytenoid muscles, similar to the functional paralysis of the adductors of the vocal cords, so often seen in hysterical women. There was generally no serious difficulty in distinguishing between this disease and spasm of the glottis; but it was, in some cases, quite impossible to make during life a differential diagnosis between paralysis of the posterior crico-arytenoids and anchylosis of both arytenoid cartilages. With regard to ætiology, one of the six cases resulted from functional disorder, one from compression of both recurrent nerves by firm connective tissue (proved on post-mortem examination), two from catarrhal influences, and one from perichondritis (proved post mortem). Dr. Simon had looked upon the other nervous symptoms, above mentioned, as very interesting, but merely accidental coincidences; for the long time which had elapsed between the onset of the paralysis and that of the other symptoms, as well as the integrity of the other organs supplied by the pneumogastric nerve, seemed to show that there was no connection between the two groups of symptoms. But Dr. Hughlings Jackson, who had seen the case, thought that there was no doubt that the paralysis was due to central disorder, probably to a wasting process in the medulla oblongata. One case of this kind had lately been described by Penzoldt. Prognosis seems to be favorable in cases of functional paralysis; in all others it is at least doubtful. With regard to treatment Dr. Simon said that functional paralysis requires only constitutional treatment, owing to the complete failure of all other remedies experienced here and abroad in recent cases of purely neuropathic character; the direct application of electricity to the paralyzed muscles might be tried, although all observers agree that it is not so useful as in other paralyses. [Cases of paralysis of the posterior crico-arytenoid muscles, in which recovery has taken place, and which may therefore possibly have been functional, so called, are so very rare that any general statements regarding efficacy of treatment seem unwarranted. — REP.] Dr. Simon says that no percutaneous application should be tried, inasmuch as the irritation of the healthy fibres of the vagus supplying the antagonists would lead simply to stronger contraction of these and still more marked narrowing of the glottis. In accordance with all other observers, the early performance of tracheotomy was recommended in all the more developed cases. If performed in time it will not only save the patient's life, but will also restore him to health [of course not if the paralysis proceeds from a central lesion, as supposed in Simon's case. — REP.], with the only disagreeable modification that in all probability he will have to wear his tube permanently.

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[1] Berl. klin. Wochen., No. 10, 1878.

[2] Lancet, April 20, 1878.

The president, Mr. Callender, said that, granting that the disease exists, it was more easy to understand it to have a local than a central origin. It seemed difficult to suppose that so complex a nerve as the vagus could have its fibres so differentiated that a few only were materially altered by central disease. Dr. D. Powell thought the case would throw light upon the cause of dyspnœa in cases of pressure causing paralysis of the laryngeal muscles. The dyspnœa was clearly inspiratory, and he would suggest that it was due to the atmospheric pressure sucking the cords together, as he had himself noticed in a case of pressure on the recurrent nerves. It was surprising that the patient had no pulmonary signs. It would go hard with him if catarrh supervened, and Dr. Powell asked Dr. Simon whether he contemplated an early operation to avert such an untoward result. Dr. Simon said that in one case examined post mortem there was chronic pneumonia; in another the lungs were only slightly congested; in the literature of the subject no mention was made of disease of the lung. He concurred in the opinion that operative measures should be had recourse to as early as possible.

(*To be concluded.*)

LOGAN ON THE PHYSICS OF THE INFECTIOUS DISEASES.[1]

A CONSIDERABLE portion of this book is occupied with an account of the natural features, climatology, and sanitary condition of the western coast of

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[1] *Logan on the Physics of the Infectious Diseases: Comprehending a Discussion of certain Physical Phenomena in Connection with the Acute Infectious Diseases.* By C. A. LOGAN, A. M., M. D. Chicago: Jansen, McClurg & Co. 1878. Pp. 212.

South America, and contains much useful and interesting information. It appears that epidemic diseases are either unknown in those regions, or are greatly mitigated in their effects. This the author accounts for by a peculiar "electric energy," which "operates to decompose the infectious molecule of exotic diseases and prevent their development," and which is derived from the influence of the chain of the Andes and the trade-winds upon the temperature and rainfall, together with the prevalence of earthquakes in certain districts. Small-pox, however, is an exception, being very common in Valparaiso, where it is often severe and fatal. It is stated that vaccination is inefficient as a preventive, and that one attack is non-preventive against another, many persons having the disease three times and even four; but the author cites no observations of his own to confirm these statements, except that he had seen those who claimed to have had repeated attacks.

Under the head of the Physics of Specific Causation the author gives a summary of certain functions of the nervous system, with speculations of his own, which if they are suggestive are too fanciful to be readily adopted. He notices some of the theories of contagion, especially the bacterial hypothesis, which he thinks is not founded on truth. While the original producing agent of an infectious disease may be of animal or vegetable character, or possibly inorganic, the contagium of a type disease "does not consist of vegetable germs but is a product of a preceding type action," capable under favoring circumstances of inducing the typical action in a healthy system. He is satisfied that though "the touchstone of time may level his theories to the dust" there are principles "which neither time nor authors can disturb; as there are also facts underlying the structure the author has attempted to build which must remain immutably fixed through all the coming cycles of the future, and cease to be facts only when the wreck of matter and the crash of worlds shall announce the end of present laws and the termination of all existences resting upon them."

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ATLAS OF SKIN DISEASES.[1]

The title of this work misleads one. It is a treatise on nævus vascularis and psoriasis, illustrated by colored plates of cases. They are of the same size as the book, octavo, but are intended to reproduce the diseased appearances of the skin, in these affections, of life size. The author believes that this innovation in form is an improvement upon ordinary atlases, because they are generally so large that no one knows what to do with them. The present part contains four plates, two of nævus of the face, one of them interesting on account of a molluscous new growth upon the affected parts; the other two represent a man with psoriasis of the face before and after treatment. The execution of the first two is good; that of psoriasis is bad; and the last picture, a healthy face after recovery from the latter affection, wholly useless.

The value of the book lies chiefly in the text. The two diseases treated of are those about which the author has recently written at considerable length,[1] and little that is new is presented. In the treatment of nævus he does not represent the cure by scarification as so simple a matter as originally, but admits that the process is tedious, and that "in all cases ten or a dozen repetitions of the scarification will be requisite to produce any considerable alteration of the color of the skin." Instead of the cataract needle first advised he uses a set of parallel scalpel blades firmly fixed in a handle. He has also much to say about treatment by stippling with sets of needles heated to the red point in a spirit lamp. They should be thrust into the skin to the depth of one sixteenth of an inch, and this process has also to be repeated. It leaves punctate scars, which are less disfiguring than those of the galvanic cautery.

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[1] *Atlas of the Diseases of the Skin.* By Balmanno Squire, M. B. London: J. & A. Churchill. 1878.

The author states that future numbers of the work will appear occasionally.

HOFF ON HÆMATURIA.[2]

"Hæmaturia, from hæmato, blood, and ureo, to urinate"! . . . . So reads the first line of this little book. Such a beginning promises more amusement than the sequel will be found to afford. Those who read on in quest of further entertainment will be somewhat disappointed.

FOREIGN PRACTITIONERS IN FRANCE AND ENGLAND.

In view of their nomadic habits and the large numbers of Americans and English whom business, pleasure, or a search for health cause to travel or sojourn in foreign countries, for a longer or shorter time, legislation in other countries limiting the right of foreigners to practice medicine has an especial interest, and for us as individuals, whether medical or lay, hardly less than for the English. A good deal of excitement was created in England last year by the threatened passage in France of a law withdrawing from the Minister of Public Instruction the power which he has possessed for many years, and which under the empire was exercised with extreme liberality, of granting to foreigners permission to practice, and subjecting them instead to the usual examinations of a student coming up for a degree. The English government went so far as to direct its representative to remonstrate with the French government, and has followed this up in their late Medical Law Amendment Bill by a renewed protest, and a proposition of mutual liberality toward "trustworthy" foreign diplomas, at the same time calling attention to the liberal provisions in regard to foreign practitioners contained in their own bill. The bill at present before the French legislature is a modification of that of last year, but still admits of being applied with sufficient stringency to satisfy the most greedy of French practitioners, and is naturally unpalatable to the English. It remains to be seen of how much value the English protest will be on this point; the *quid pro quo* which she offers in liberality is of very little, there being comparatively so few Frenchmen, either sick or well, outside of France.

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[1] On Port-Wine Mark, etc. London. 1876. On the Treatment of Psoriasis by an Ointment of Chrysophanic Acid. London. 1878.

[2] *On Hæmaturia as a Symptom of Diseases of the Genito-Urinary Organs.* O. Hoff, M. D. Philadelphia: Lindsay and Blakiston. 1878. Pp. 50.

As we ourselves are already so nearly affected by any legislation restricting the practice of medicine by our countrymen abroad, as with the increasing tide of foreign travel we are likely to be more so, and as it may become the duty of our government to make its voice heard in behalf of American citizens, it is worth our while to observe the present tendency of public and professional feeling in England and France as indicated in these bills.

Since the German war the permission to practice in France has been granted very rarely and with great difficulty. This is to be attributed partly to the dislike of the foreigner as a bread winner, which then arose, and partly to the increasing value of the *clientèle.* The provisions of the present bill are substantially as follows: —

Foreign medical men can obtain from the Minister of Public Instruction a remission of the bachelor's degree upon recommendation of the medical faculty, before whom they must pass a preliminary examination. In order to practice within the limits of the republic they must pass two examinations before a government faculty, the one theoretical, the other practical, the forms and substance of these to be determined by the government. This simply gives the right to practice; a second article forbids the assumption of the title of doctor unless obtained in the usual way from a French medical faculty. Then follow suitable penalties. Such restrictions strike us as unnecessarily illiberal, and in marked contrast to the boasted French hospitality, which should not find itself at ease only when a harvest is to be reaped.

The following is the substance of the proposed legislation in the United Kingdom: A foreigner who has practiced medicine at least ten years abroad, upon satisfying the general medical council that he has obtained and still holds a recognized medical diploma granted in a foreign country, and is of good character, and upon payment of the registration fee, shall be entitled, without examination, to be registered as a foreign practitioner in the medical register. A person holding a diploma not recognized may appeal to the privy council. These restrictions seem to us ample for the protection of the public, and more in accordance with the spirit of the age and the solidarity of social interests than those in the French bill, — which do not savor of a republic. The fact that in the United States there are no restrictions whatever to the practice of medicine, either for natives or foreigners, would perhaps not strengthen its position in case our government should find it necessary to advocate the medical interests of its citizens abroad.

MEDICAL NOTES.

— By private advices we are informed that Dr. Lautenbach, who has been such a valuable worker in the physiological laboratory of the University of Pennsylvania, has gone back to Germany to his old position in Schiff's laboratory. Prof. H. C. Wood will hardly find another Lautenbach.

— An inspection of the Board of Health report of the deaths and interments in Philadelphia of the week ending July 20th shows far less fatality resulting from the great heat than many persons feared. The average was not so large by seventy as that for the preceding week, and not so great by eighty as the total for the corresponding week last year. The whole number of deaths was but three hundred and fifty-eight, one hundred and seventy-eight being infants under two years of age. There was but one death from sunstroke.

— The Pennsylvania College of Dental Surgery, owing to the increase of the terms of regular session and the advances made in methods of instruction, have been able to make an arrangement with the Jefferson Medical College through which students who desire to do so can obtain the two degrees of dentistry and medicine in three instead of four years, as heretofore.

— A London exchange informs us that the distinguished physiologist, and a leading member of the Fortschritt party, Professor Virchow, has decided on leaving active political life, and has addressed the following words to his late constituents: "There are people who say I do not wish to go back to the Reichstag out of pure dislike to the empire. Certainly I am one of those who combated the present imperial laws at their creation, as being inadequate and injurious. But now that they exist I resign myself to the hard reality, and stand as firmly as any one by the emperor and the empire. I cannot accept a seat in the Reichstag simply because it would be incompatible with my scientific labors to do so, and would inevitably lead to my abandoning them altogether. Perhaps you may think me a good enough politician, but for myself I think I am a better *savant*. I am convinced that in this, my real province, I can be more useful than in the Reichstag."

— At the last congress of German surgeons W. Busch announced his success in the treatment of burns by the Lister methods.

— When not caused by constitutional disease, cracked nipples, says the *Progrès médical*, should be washed with the tincture of benzoin. They heal in five days. This treatment does not interfere with lactation.

— Dr. Wannebroucq recommends the treatment of internal hæmorrhoids by forcible dilatation of the sphincter ani. "This procedure gives immediate relief, and effects a permanent cure without other interference."

— Martin, of Berlin, reports another successful case of splenotomy. The record now is ten cases, three recoveries.

— In the *Brain* for April, Dr. A. Hughes Bennett reports a case of cerebral tumor, with symptoms simulating hysteria, and which had been diagnosticated as aggravated hysteria by one of the most distinguished authorities in nervous diseases in Europe. The symptoms were as follows: a sudden attack of blindness and deafness, from which the patient recovered in a few days. Three months afterwards a second attack of permanent blindness, accompanied with continually increasing deafness and paraplegia of the lower limbs. These symptoms lasted four months, when the patient became unconscious and delirious, and died in a few days. Ordinary hysterical symptoms were manifested during the entire period of the disease. A tumor as large as a hen's egg was found in the substance of the right hemisphere.

— By means of a glass tube in which freely oscillated a column of liquid

M. Oudin was enabled to study the cerebral pulsations of a man who had blown off the vault of his cranium without destroying life. Oudin found these pulsations to be synchronous with those of the heart, and influenced by respiration. His opinion is that the rise and fall of brain tissue due to respiration results from a compression of the venous sinuses of the body at large.

— In the year 1877 eleven hundred and forty-two horses were devoured in Marseilles. These figures indicate a slow but steady increase of the use of horse-flesh in that city.

— Touching Battey's operation the Paris *Medical* says: "The operation is not only rash, but is to be condemned for its boldness. We cannot approve the conduct of a surgeon who thus plays with the life of his patients, especially when we remember the gravity of deep lesions of the peritonæum. We are happy to state that no French surgeon has followed the footsteps of the American."

— Dr. Robert Gardiner Hill, who is identified in England with the abolition of the rougher and more barbarous treatment of lunatics which prevailed early in this century, has recently deceased. — Amussat, who wrote largely on galvano-caustic surgery, is dead. — The Pathological Institute in Leipzig has been notably improved in its accommodations and general system under Professor Cohnheim. — Edwin T. Darby, D. D. S., of Philadelphia, removed an exostosis from the nasal passages of a patient of Dr. J. Solis Cohen by means of the burr of the dental engine. The operation was a success, Dr. Cohen confessing that with the usual surgical appliances the removal of the tumor would have been impracticable. In the *Medical and Surgical Reporter* for July 13th details will be found. — Dr. Lewis A. Stimson has been appointed professor of pathological anatomy in the University of New York. — Dr. F. T. Roberts, author of the Handbook of Medicine, has been nominated professor of materia medica and therapeutics in the University College of London.

— It is said that Dr. Wilson Fox will succeed Dr. Erasmus Wilson as professor of dermatology in the Royal College of Surgeons.

— From a Chicago correspondent we learn that the old staff of the Cook County Hospital has been turned out, and a new staff appointed, by political pressure. Formerly, without exception, nominations to the staff have come from the medical corps of the hospital.

LETTER FROM NEW YORK.

Mr. Editor, — At the May meeting of the Medical Society of the County of New York the following resolution was recommended by the Comitia Minora for adoption by the society, after it had lain on the table for one month: —

"*Resolved*, That strict adherence to the proposition '*similia similibus curantur*,' in the selection of medicines, and the rejection of the 'aids furnished by anatomy, physiology, pathology, and organic chemistry,' constitutes exclusiveness.

"Those who do not reject the aids referred to, and who do not prescribe homœopathically, when better ways are known to them, are not exclusives. The only exclusives in this county known to the Comitia Minora are a minority of the Homœopathic Medical Society of the county, and the members of the Eclectic Medical Society, the constitution of whose state organization excludes the employment of "antimonials, mercurials, and venesection.'"

The object of the resolution was to "open the door" for consultation with the so-called liberal homœopaths, and its origin was due to the fact that the president of the society had received a letter from a member inquiring whether, in the opinion of the Comitia Minora, a certain resolution passed at a meeting of the Homœopathic State Medical Society in February last did not absolve the homœopaths from the law under which they had been placed by the regular medical profession in the Code of Ethics, article 4, clause 1. The resolution referred to was to the effect that, although firmly believing that "similia similibus curantur" constitutes the best general guide in the selection of remedies, this belief does not debar homœopathic practitioners from recognizing and making use of the results of any experience, and that it is the inviolable right of every educated physician to make practical use of any established principle in medical science, or of any therapeutical facts founded on experiments and verified by experience, so far as in his individual judgment they shall tend to promote the welfare of those under his professional care.

At the June meeting of the society (held on the 24th), the Comitia Minora's resolution came up for action, and naturally elicited a lively discussion. During the course of the latter Dr. Sayre "brought down the house" by suggesting that if the homœopathic brethren wished to be recognized by us, let them follow the good example set them by the worthy president of the County Medical Society (Dr. John C. Peters), who had abjured their false gods, and come over into the ranks of the regular profession. The resolution was voted down by a considerable majority of the large number of members present, and the announcement of the result was greeted with no little applause.

A number of the profession were recently invited to a private exhibition at the New York Aquarium, of a remarkable living monstrosity, which is known as the "St. Benoit Twins." The twins are called "Rosa" and "Mary" (although, united as they are, it would seem more appropriate to bring their names together in one word, "Rose-Mary"), and they are now seven months old. They have two perfectly formed and natural heads, and two bodies also, as far as the last rib, but below that both are fused into one. They have four arms, only two legs, and each child has the control of but one of them. As far as the natural functions of life are concerned each is almost entirely separated from the other, and one may be sleeping while the other is laughing, or one crying while the other, is nursing. As their names would indicate they are of the female sex, and they have but one abdomen, one umbilicus, one vagina, and one rectum; although the stomachs and some at least of the other abdominal viscera seem to be separate. They were born at a place called St. Benoit, about thirty miles from Montreal, where their parents' families have resided for eighty years past. The father and mother, who are of French extraction, are about twenty-six years of age, and they have one other child, a girl two years old, whose body is perfectly normal in every respect. It is the first instance, so far as is known, of a freak of nature occurring in any members of the two families.

The general configuration of the monstrosity is not unlike that of the letter Y, the base being represented by the feet; and yet there was no difficulty at the time of its birth. There was no physician, and not even a professional midwife in attendance; only an ordinary female friend assisted the mother in her confinement. One of the heads presented first, and after that was delivered, the body belonging to it followed. Next came the body of the second child, with the two legs doubled up alongside of it, and finally the head of the second child. They are now really fine-looking children, and apparently perfectly healthy, although one of them seems to be somewhat larger and better developed than the other.

This double child belongs to the second species of the genus *dicephalus*, namely, the *dicephalus tetrabrachius*. In an elaborate essay on Compound Human Monsters, published in the transactions of the New York State Medical Society, for 1866, 1867, and 1868, Dr. G. J. Fisher, of Sing Sing, quotes seven instances of this species, with more or less detail. According to Dr. Fisher, it possesses a high degree of vitality, and some specimens of it have undoubtedly attained adult age. One of the best known cases is that of the Sardinian double child, Ritta-Christina, born in 1829. It was brought to Paris by the parents, who were poor, for the purpose of public exhibition; but this being interfered with by the police, it was kept in a cold room, on account of their poverty, and the exposure no doubt hastened its death, which occurred at the age of eight months and eleven days. Ritta, whose constitution had always been feeble, at last became very ill, three days previous to her death; during which time her indisposition did not in the slightest degree affect the health of Christina. At the moment when Ritta died Christina was hanging on the breast of her mother and playing with her face, when suddenly she relaxed her hold, heaved a sigh, and expired. From the autopsy it will be seen that the degree of separation was not so great as in the case of the St. Benoit twins. The right lobes of the lungs of Ritta and the left of Christina were not fully developed. The pericardium was single, but inclosed two hearts, which were so situated relatively to each other that during life their contraction and dilatation were synchronous, and hence the stethoscope transmitted but a single sound, which led to the opinion that only one heart existed. There was but one inferior mesenteric artery, which was supplied from the aorta of Christina, while there was an anastomosis of the inner or approximating iliac arteries belonging to each individual, forming a large transverse branch, which served to unite the circulation of the two children. The sympathetic nerves were separate and distinct as low as the pelvis. The digestive organs were double and separate as far as the lower third of the ileum, but from thence single. The stomachs, spleens, livers, etc., were right and left, but the livers were fused. There were two gall-bladders, occupying a medium position, and the uterus was double. The vertebral columns were entire, and separated at the sacra by a mass of bone, while the sternums were united at their manubria.

It is believed that the St. Benoit twins constitute the first instance of the four-armed two-legged dicephalus ever seen in America, and their further history will no doubt be watched with great interest by all the profession.

On Friday evening, June 27th, a large and elegant reception was given by Dr. Nathan Bozeman, at his residence on Fifth Avenue, in honor of Prof. T. G. Richardson, of New Orleans, late president of the American Medical Association, and Prof. S. D. Gross, of Philadelphia.

SHORT COMMUNICATIONS.

A CASE OF TRACHEOTOMY.[1]

BY HERMON J. SMITH, M. D.

In the early part of January, 1877, I was summoned to see a little fellow six years of age, whom I found suffering from what seemed an ordinary cold, and complaining of some soreness of throat. Nothing abnormal could be seen in the pharynx save a slight redness; but on the following day an increasing difficulty in respiration, with a brassy cough, led me to fear the formation of membrane in the larynx, and I prescribed the usual treatment. A continuous pain behind the lower third of the sternum was the only theme of the boy's complaint. On the third day, these symptoms having become exaggerated and the complexion dusky, it seemed to be a fair time for operation, and I called in consultation Dr. Charles A. Savory, who brought with him Dr. Fisk and Dr. Skinner, of Hoosac Tunnel. All agreed that the only chance was tracheotomy, and that not a very promising one. The patient being etherized, Dr. Savory began the operation, which was twice suspended to restore the respiration. No untoward event happened to interfere with the successful entrance of the tube into the trachea, but to our surprise the respiration instead of improving was even more difficult than before the operation, and the patient was placed upon the bed apparently to die in a brief time of suffocation. After an intense agony of ten minutes, each one of which promised to be his last, a result which the parents would gladly have welcomed as a happy termination of his sufferings, he sprang up in his bed, and with a tremendous effort expelled something through the tube to the distance of several feet, and sank back with perfect relief, breathing quietly. This substance proved to be a complete cast of the trachea, the right and left bronchi, and many of the finer bronchial tubes, which specimen I have preserved, and offer you for your examination.

From noon on the following day the respiration grew more and more labored till five o'clock, when the condition was perilous. We found almost complete obstruction to the passage of air. The inner tube was removed and washed, with no relief. A bent probe was pushed into the canula with the hope of pushing away whatever secretion had fastened itself upon its lower extremity, but to no purpose. Finally, a gentleman present, who is engaged in the manufacture of patent milkers, in the construction of which rubber tube is used, suggested the trial of a piece of it which he had in his pocket. The tube was tried, and was passed several inches below the extremity of the canula, which was followed by the expulsion of a piece of hard, gluey substance the size of a bean, and the natural respiration was immediately established. Two days afterwards, at midnight, the same critical situation happened, but before I could reach the patient the nurse felt impelled to interfere, and had passed the rubber tube with so much success that nothing remained for me to do. This gluey substance was continually forming, and it required the most assiduous attention to keep it from blocking up the tube. Both tubes were occasionally removed to be cleansed, and it was found that the gluey mass began to form upon the lower extremity of the outside tube. On the ninth day the tube was permanently removed, the aphonia disappeared in three weeks, and the boy is to-day a living example of the value of tracheotomy.

In connection with this case there were several points which were of especial interest to me: and first the great watchfulness required in the after-treatment to prevent obstruction to respiration. Trousseau, who has reduced to writing his very extensive experience in tracheotomy, says the formation of a gluey substance upon the tube is a very unfavorable symptom. Twice in our case this material almost completely blocked up the tube, forming as it did upon the lower extremity of it. The rubber tube proved a valuable aid in dislodging it, and I cannot think of anything better adapted for the purpose. It is soft and elastic, and can be safely run, if necessary, with considerable force into the trachea. Moreover, being hollow it allows the free passage of air while inserted in the canula. Nurses can use it in an emergency without danger of injuring the parts.

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[1] Read before the Lowell Medical Journal Society.

Secondly, before making the trial I feared that to take out both tubes from the trachea might prove a dangerous experiment, inasmuch as the walls of the opening would collapse and obstruction to the passage of air be complete; but to my surprise the canal remained gaping open, and the tube was reinserted with ease. The tubes were removed for cleansing about twenty-four hours after their first insertion.

Thirdly, Was this croup or diphtheria? I shall not discuss the point here, but will only state a curious fact in connection with the case. The boy without doubt had what may be called a classical case of croup, according to the accepted description of that disease as found in authorized works. There was no membrane at any time in sight, no fœtor, no enlargement of the cervical glands, and there was a full, firm pulse. But during the following week the mother and two older children had well-marked diphtheria. A lady, also, in an adjoining house, who had rendered kindly offices to the sick family, was attacked at the same time with diphtheria.

Such is a brief description of what to me was a very interesting and instructive case. While it has increased my faith in the feasibility of the operation of tracheotomy, it has led me to believe that many cases prove fatal from insufficient care and watchfulness in the after-treatment.

EXCISION OF SPLEEN.

Mr. Editor, — In the American reprint of the London *Lancet* for July, 1878, page 336, under the heading Splenotomy, is the following statement: —

"An account of what appears to have been the first case of excision of the human spleen in America was lately read before a medical society in Sacramento, and subsequently recorded in the *Pacific Medical and Surgical Journal*." The operation was performed in June, 1877.

The writer of the above is mistaken as to the fact of this being the first operation of its kind performed in America. Some seven or eight years ago the present writer, with other physicians, assisted Dr. Oscar C. Dewolf, late of Northampton, now health commissioner of the city of Chicago, in removing a diseased spleen from a woman in Florence, Mass. The patient did well for many hours, — I think a day or two, — but finally died rather suddenly.

F. B.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. III.

Office Surgeon-General U. S. M. H. S., Washington, *July* 27, 1878.

New Orleans. — About the 12th inst. cases of yellow fever began to occur in New Orleans. At first they were at one focus of infection only, but others soon appeared at different points, and up to yesterday evening thirty-seven cases and seventeen deaths had been reported to the State Board of Health. So far the board has been unable to trace the outbreak to foreign source. Carbolic acid disinfection is being vigorously carried out at all infected points, and the remarkable success which has attended the efforts of the board in this direction in the past few years gives hope of preventing the outbreak from assuming epidemic proportions. Three or four persons from New Orleans have died of yellow fever at points above that place on the Mississippi.

Brooklyn. — No new cases at Navy Yard since last Saturday's report.

Key West. — From 10th inst. to noon to-day six new cases of yellow fever in the harbor and three in the city have occurred.

Havana. — During the week ended July 13th there were ninety-seven deaths from yellow fever and twenty-two from small-pox.

Matanzas. — Advices to 19th show increased cases and increased ratio of deaths.

Japan. — Occasional cases of cholera during winter and spring to June 19, 1878, at Yokohama and vicinity show the poison has survived the winter. The epidemic of last September, October, and November extended to all parts of the empire, with a mortality of 7967 out of a total of 13,710 cases, or 581+ deaths to 1000 cases. No means yet instituted in Japan to prevent importation of the disease from China, where it exists, and where the famine furnishes most favorable conditions for its reappearance in a more malignant form.[1]

Calcutta. — Twenty-two deaths from cholera during the week ended May 25th.

Bombay. — Twenty-nine deaths from cholera during week ended May 28th.

Reports received from other places indicate good health. John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending July 27, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77
New York.	1,093,171	732	34.82	23.42	28.71
Philadelphia.	876,118	420	24.93	18.80	21.54
Brooklyn.	549,438	247	23.38	21.51	25.50
Chicago.	460,000	216	24.42	17.83	22.39
Boston.	375,476	176	24.37	20.10	24.34
Providence.	100,000	41	21.32	18.81	19.20
Lowell.	55,798	36	33.55	19.09	22.50
Worcester.	54,937	20	18.94	14.07	22.30
Cambridge.	53,547	29	28.16	18.69	20.83
Fall River.	53,207	22	21.50	21.35	24.96
Lynn.	35,528	10	14.64	20.42	19.67
Springfield.	33,981	11	16.84	16.02	19.77
Salem.	27,140	8	15.33	20.38	21.15

American Dermatological Association. — The next annual meeting of the association will be held at the Grand Union Hotel, Saratoga Springs, N. Y., on the 27th, 28th, and 29th of August. Many important papers will be read. Regular practitioners are cordially invited to attend the meeting. R. W. Taylor, M. D., *Secretary.*

Books and Pamphlets Received. — Ninth Biennial Report of the Iowa Hospital for the Insane at Mount Pleasant, 1876, 1877.

Twenty-Fourth Annual Report of the Board of Education, City of Oswego, for the Year ending February 15, 1877.

Catalogue Allen's Academy, 1877–78.

Annual Announcement Fort Wayne Medical College, 1877–78.

On the Postural Treatment of Tympanites Intestinalis following Ovariotomy. By Edward W. Jenks, M. D. (Reprinted from the American Journal of Obstetrics, July, 1878.)

Transactions of the Medical Association of Georgia. Twenty-Ninth Annual Session. Atlanta, April, 1878.

Proceedings of the Connecticut Medical Society, 1878. Eighty-Seventh Annual Convention. Held at New Haven, May 21st and 22d. C. W. Chamberlain, M. D., Secretary. Hartford, Ct.

The Pith of the Dried Cornstalk as a Uterine Tent, etc. By W. T. Goldsmith, M. D., Atlanta. (Reprint.)

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[1] Dr. D. B. Simmons, chairman Health Board, Yokohama, etc.,

THE BOSTON
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LECTURES.

BELLEVUE HOSPITAL, NEW YORK: CLINIC OF DR. EDWARD L. KEYES.[1]

Periarthritic Abscess of the Knee in a Young Child treated by the Lister Method. — GENTLEMEN: Three days ago I saw a child three years old who had just been brought into the hospital with an enormous swelling about the right knee. The only point in its history which could be obtained was that it had been kicked in this part by a horse about a month previously. The joint was at least two or three times as large as its fellow, and there was considerable redness of the skin upon both the inner and outward aspects of the limb. This was most marked on the inside, where the abscess (for such it undoubtedly was) looked as if it were going to point. When the hands were placed on the two sides of the joint the mass was found to be distinctly fluctuating, the wave thus produced passing, apparently, beneath the patella.

The most striking feature about the case was the extraordinary amount of lateral motion that could be obtained in the joint, as it seemed, and this might have misled almost any one. It was so marked as to make the joint appear to be disorganized, and it occurred to me that a separation of the diaphysis and epiphysis at the lower end of the femur had probably taken place. This, you know, sometimes does occur in young children, though it is not common. The sequel proved, however, that the extreme lateral displacement was not due to this cause. On the evening when I first saw the child I had no antiseptic apparatus with me, and there was none in the wards. I was afraid to open the abscess without the precaution of using this, lest hectic or other constitutional disturbance might result from the operation. Therefore (and especially as the general condition of the little patient was quite good) I contented myself with simply tapping the knee by means of the aspirator, reserving any more active interference until the following day. In this way about three ounces of thick, greenish pus were drawn off.

The next morning the temperature was 99.50° F., and I then made a free incision, under the carbolic spray, on both the inner and outer sides of the knee. In this way about ten ounces more of the same creamy, green-colored pus were evacuted, and after the abscess was thus emptied I tried to make lateral motion as before, but now utterly failed to do so. This rather astonished me, because the lateral motion had seemed so obvious both to myself and to the house staff before the abscess had been emptied. Now, however, there could be no doubt that there had been no real lateral motion in the joint, the displacement noticed being due entirely to the large amount of pus present in the abscess.

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[1] Reported for the JOURNAL.

I found that I could insert my finger under the ligamentum patellæ, and also into pockets of considerable size, extending both above and below, which had been formed by the burrowing of the pus.

This was in all probability, therefore, a case of what is known as periarticular abscess, the collection of pus being entirely exterior to the joint. Abscesses around large joints are apt to mislead the surgeon if he first inspects them after they have reached full development, for they occur so rarely that he is not likely to be on the lookout for them, and when he does happen to meet with a case he will probably suppose that he has to deal with an abscess affecting the joint itself.

After the pus had all been evacuated from this little patient's abscess, I passed a drainage-tube from one side of the knee to the other, under the ligamentum patellæ, and leaving it *in situ* applied a dressing of antiseptic gauze, still under the spray. The next morning the temperature was 99.50° F. There was no shock or reaction whatever after the operation and the very free discharge of pus which followed it. It is now forty-eight hours since the abscess was opened, and the temperature has fallen to 99° F., so that the child is in altogether better condition than before. We can never be absolutely certain in these cases that there may not be communication between the abscess and the joint; but here I have little doubt in my own mind that such is not the case. If the joint had been affected there would almost inevitably have been more febrile reaction.

But now let us suppose the pus had been within the joint instead of exterior to it. In that case also I should have opened the abscess freely in the same way as here, and then inserted my finger into the joint in order to sweep away any fungosities, such as are seen in white swelling of the knee, which might have formed upon the surfaces. Finally, I should have passed a drainage-tube *through the joint*, and all this, of course, would have been done under the antiseptic spray. Surrounding the child with the best hygienic conditions, I should have afterwards watched very carefully for constitutional reaction to set in, and if this occurred in an extreme degree I should have resorted at once to amputation, which I regard as the best treatment in such cases.

It is remarkable, however, how much can be done, almost with impunity, with joints in these days of antiseptic surgery, and Lister does not hesitate to explore them in the most thorough manner under the carbolic spray whenever he considers it desirable. Quite recently I read in *The Lancet* the report of a case of transverse fracture of the patella which was treated by opening the joint under the spray, and then boring through and wiring together the fragments of the bone. Drainage was secured by means of a tuft of horse-hair, and the wound then closed up, after which a good recovery was made, with bony union, and in much less time than is required by the usual methods of treating this fracture. Of course, more than one such case would be required in order to justify an ordinary surgeon in resorting to the procedure.

In the present case the dressing has been changed only once since the abscess was opened, and I now propose to repeat the dressing before you, in order to demonstrate all the details of the antiseptic method in such cases. In the first place, two solutions of carbolic acid are required, — one of the strength of one to twenty, and the other of one to forty. The apparatus I shall use for throwing the spray is that devised by Dr. Weir, of this city, which, as far as I am aware, is decidedly the best that has yet been produced in America. I consider it almost, though not quite, equal to Lister's apparatus, and it has the great advantage of being very much cheaper than Lister's. While this machine costs only fifteen dollars the latter comes as high as sixty, I believe. Before commencing at all I wash my hands in the one-to-twenty solution of carbolic acid, and then after carefully cleaning my nails repeat the washing. The cleaning of the nails, it is claimed, is a very essential part of the process, as it is believed that bacteria accumulate very readily under them. Next I take the precaution of anointing the backs of my hands with vaseline, in order to prevent the carbolic spray from taking off the skin, though if the carbolic acid used is very pure it does not have such an irritating effect. On the inside of the hand the skin is so thick and hard as to render this unnecessary. The spray is now directed steadily on the part before we even commence to remove the old dressing, and when the gauze next the openings of the abscess is reached we find that the discharge of pus during the last twenty-four hours has amounted to scarcely more than a teaspoonful. The temperature, I may remark in passing, is quite natural over the knee, and the surface of the body feels cool and moist. Leaving the drainage-tube in place, I inject through it with a syringe the carbolic acid solution of one to forty (which is as strong as should be used for this purpose), and a little of it also around the tube into the wound itself. The next step in the process is to place a large folded pad of antiseptic gauze around the joint, with a sheet of india rubber in its outer folds; and finally the knee and the limb for some distance above and below the joint are covered with the turns of a carbolized-gauze roller. It is most important to have the latter quite tight above, as the discharges all run upward.

This I consider an unusually interesting case, and it would have been much more instructive to you if you could have seen it when it was first admitted to the hospital. It was, however, manifestly impossible for me to delay opening the abscess until to-day, when I could have operated before the class, because a spontaneous evacuation of it would undoubtedly have occurred before now, and this might have been followed by the most serious consequences. The contrast which the child presents now to the condition it was in at the time of its admission is exceedingly marked. Then (only three days ago) it was feverish and fretful, and suffered great pain from the enormous abscess about the knee-joint, while to-day it is practically well. Its skin and pulse are natural, it eats and sleeps well, and it plays all the time contentedly with its toys. It will not now be necessary to repeat the dressing here for two or three days. In cases of this kind they should be changed every day as long as the discharges come to the surface of the dressing. In a short time the discharge will be so small here that the drainage-tube can be withdrawn, and we anticipate the most happy result in the case.

Colles's Fracture produced in a very Unusual Manner.—In this patient you see exhibited in a most beautiful way the characteristic deformity presented by Colles's fracture; but I bring him before you principally for the purpose of calling attention to the very peculiar manner in which it was produced. This is altogether the most common fracture that surgeons meet with, especially in the winter season, and is ordinarily caused, as you know, by the individual's falling forward and throwing out the hands in front of him in order to break the force of his contact with the ground. The fracture thus brought about is marked by two characteristic deformities: first, we have the well-known "silver-fork" appearance which you see is so perfectly shown in the case before us; and, secondly, we have the shortening of the radius (so that its styloid process is found to be almost on a line with the styloid process of the ulna). This second feature, however, is not so evident on a careless inspection of the wrist. The latter deformity is due to the violence of the blow causing the fracture, which crushes the cancellated tissue beneath, and so carries the styloid process upwards. The hand also is almost always drawn towards the radial side.

Now here we have this same fracture produced in an entirely different manner. The man says that his hand was caught up by a belt in a machine-shop and drawn over a wheel, and the injury has caused quite a large slough of the skin in addition to the fracture. It would be very interesting to note here whether there has been elevation of the styloid process of the radius, for there has certainly been no impaction of the bone in this case; and if that is really the cause of the shortening (as is alleged and seems altogether probable), we ought not to find any such shortening here. On account of the very marked œdema about the wrist, however, it is impossible to make out this point at present.

It would be absurd to apply any splints in this case now. A portion of the skin of the hand is dead and sloughing away, and the first thing to be done is to encourage the slough to separate. I should therefore recommend that a poultice containing charcoal or yeast be kept upon it for a week, or as much longer as necessary, after which, the patient being etherized, all the adhesions which will have formed should be broken up, and the ordinary splints applied. I see no reason why we should not get a perfectly good result here if this course is pursued.

Phagedenic Chancre treated by the Internal Administration of Mercury in Sufficient Quantity to affect the System; Prompt Effect of the Same upon Constitutional Symptoms. — This, you will perhaps remember, is the patient who was before us a week ago to-day, and who told us that the symptoms of syphilis which we found him to be suffering from, and a phagedenic sub-preputial chancre causing inflammatory phimosis, were due to a blow on the testicle which he received on St. Patrick's Day. He denied any sexual intercourse during the past three years. The man has what is known as malignant syphilis. Notwithstanding the inflamed condition of the prepuce I refrained from slitting it up because I believed that this was the kind of phagedena which would yield to the prompt administration of mercury. It was not phagedenic when I first saw it, but afterwards became so. In the treatment which I adopted I meant simply to "touch his gums," but you see that instead of this the most profuse salivation has been produced. This is due to the fact that the patient is one who is peculiarly susceptible to the influence of mercury. He was ordered the fifth of a grain of calomel every two hours, and had taken only eleven of these small doses when the saliva began to flow at the rate of a pint a day. The salivation is slightly less marked now than it has been, however, and it will probably cease in a couple of days more. The effect of the mercury on the syphilitic disease has been most prompt and admirable in this case. The redness and glassy appearance about the penis has entirely disappeared, the chancre has lost its phagedenic character, and the prepuce is again quite natural, not even phimosis being now present. Equally remarkable has been the good effect of the medicine upon the general symptoms. A week ago a very bright papular eruption was just breaking out, and already it has become so faded that it looks as if it were quite old.

If we are to trust the books, phagedena is aggravated instead of benefited by mercury; but this is just contrary to the view that I hold, for I believe that in simple phagedena attending hard chancre mercury is *always* beneficial. Where we have merely a chancroid to deal with that is a different matter.

In order to put an end to the salivation as promptly as possible, the patient should take internally about two drachms of chlorate of potash in the course of a day, and continually make use of a gargle and mouth-wash of alum or some other simple astringent, for the purpose of puckering up the blood-vessels. In addition he should have a hypodermic injection of the sixtieth of a grain of sulphate of atropia twice or perhaps three times a day. For the constitutional syphilis it will be necessary for him to take a prolonged course of mercury, which should be extended over very many months.

Phimosis. — Before introducing the next patient I should like to make a few remarks on the subject of operating for phimosis. As there is no operation which the young practitioner is more often called upon to perform, either in the adult or the child, it is a matter of importance that you should have correct ideas upon it, and I think that I may perhaps be able to give you one or two points in this connection which you will not find in books. I recollect the first time that I was called upon to do it. It was not long after I had begun the study of medicine, and strange to say, though I did not not know anything about what I was doing, I happened to get a very good result. The first time, however, that I undertook to perform the operation upon an adult it was not quite so successful, for the phimosis was as well marked after cicatrization as before the operation. This, according to my experience, is not infrequently the case, and quite a number of times I have been called upon to slit up the prepuce after the operation for phimosis had been done by exceedingly good surgeons.

All this is due simply to the popular error that the constriction lies in the mucous membrane. It is true that this is part of the trouble, but there is also constriction of the skin of the prepuce, and this is apt to be entirely overlooked. This statement applies to adults only, and not to infants, I believe, for I have never known a Jew to suffer from phimosis. Yet the Hebrew rabbis usually perform circumcision in a very bungling manner, and in at least three instances I have known the end of the penis to be cut off with the foreskin by them. In adults, as I said, the case is different, but the whole difficulty can be avoided by simply slitting up the skin of the prepuce on the back of the penis as far as may be necessary to relieve all constriction. By doing this you lengthen the circumferential scar to any extent that may be required. When this precaution is not adopted the phimosis in some cases remains as before, and if the patient should have an erection after the operation the stitches are very apt to tear out on account of the strain thus produced. But when the skin on the dorsum of the penis is thus slit up the prepuce is so loose that there is absolutely no tension upon the tissues or strain upon the sutures, and it makes no difference whether the man has an erection or not.

Now here is one patient already etherized. He was sent to me by a physician in the country, who was of the opinion that he had stricture of the rectum, because he had great difficulty in evacuating the bowels, and frequently passed blood by the anus. On making an examination, however, I found that he had no trouble of this kind, but was suffering from a spasmodic stricture of the urethra. A great part of his trouble was removed when this was relieved by the passage of appropriate sounds, and I think the man would get perfectly well if he were only married. He is a sort of hypochondriac from being an old bachelor so long, and suffers from a sense of weight and oppression about the genitals, which I hope to be able to relieve to a certain extent, at least, by the operation which I am about to perform. He has never had any venereal disease, and in fact has never had sexual intercourse. You observe that in pulling the prepuce forward I grasp it at the mucous border, and that I apply the forceps (Ricard's) obliquely in order to make an oval cut, and also in such a position that the frænum is left entire, and that at least half the prepuce will remain after the operation. There is no use in making a Hebrew of the man, and besides the deformity that would result from more extensive cutting we avoid the hæmorrhage that would arise from severing the little artery of the frænum. Before snipping off the portion of the prepuce that is to be removed (which may be done either with the scissors or the knife), it is well always to see that the end of the penis is not included within the grasp of the forceps. The cutting now having been done, I leave the forceps in position for a few moments in order to control the hæmorrhage. Then removing the forceps, and twisting one little vessel, which still bleeds, I proceed to cut down the back of the penis for about half an inch, which at once makes the prepuce as loose as we could desire, nearly an inch being thus added to its free border.

I propose now to adopt another expedient which I find of great value, and that is, instead of rounding off the edges of the dorsal incision, to make a little plastic operation by cutting out a triangular flap of the mucous membrane, whose base will correspond with the distance between the gaping ends of the dorsal cut, and turning it back to fill up the triangular space left by the gaping of the wound. This having been accomplished it only remains to put in the sutures. For this purpose I employ a very fine needle, and I always prefer horse-hair for my sutures, as it cuts out of itself in a few days without causing any irritation. After the sutures have been introduced I shall simply smear the parts with vaseline, and allow the wound to scab over. No other dressing whatever will be employed; but in order to protect and support the penis, a ring made of a towel rolled up will be placed loosely around it. The patient should be kept strictly in bed for five or six days, but after that he may be permitted to get up and go about his business as usual.

THUMB-SUCKING IN CHILDHOOD AS A CAUSE OF SUBSEQUENT IRREGULARITY OF THE TEETH.

BY DR. T. H. CHANDLER.

Aside from hereditary congenital deformity, which may itself have originated in this practice, there is no one cause so productive of malformation of the bones of the mouth and irregularity of the teeth as the habit of thumb-sucking in infancy; the different positions of the thumb giving rise to different kinds of deformity.

Generally, on looking into the mouth of a patient brought to him for correction of irregularity of the teeth, the dentist at once perceives what has been its cause from the peculiar features it presents; but at times this special malformation is so disguised by other and more hidden causes that it is difficult to distinguish it.

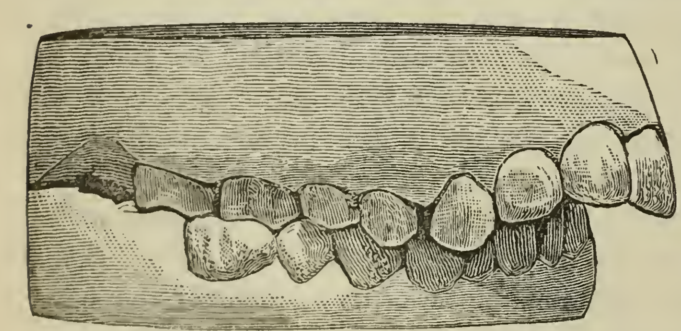

Fig. 1. Side view of a model of a thumb-sucking mouth, showing the overlapping upper jaw, an upward curve of the upper incisors, and the articulation of the lower teeth one tooth back of normal position.

In deformity from this cause there is often found in the upper portion of the mouth, just back of the incisors, a hollow in the palatal bones, into which the little victim's thumb has fitted, and which has itself been moulded by and on the thumb. The front teeth are projected forward, sometimes spread out like a fan, but commonly at an angle, overlapping one another, and pushing out the upper lip, giving the face a prognathous appearance, while the whole upper jaw has a stretched look, as though it had been drawn out while soft and become hardened in that position, as indeed is the fact. The bones of the floor of the nares are not infrequently elongated and at the same time narrowed, occasioning a difficulty of breathing through the nostrils, especially when asleep, and many consequent ills; such, for instance, as a collection of dried mucus in the posterior nares in the morning after a long stay in a reclining position, and much trouble at this time in clearing the throat and getting it comfortable for the day. Also from this necessity of breathing through the mouth it must be kept open, and the air currents drying the saliva *in situ* the carbonates of lime or tartar are deposited from it upon the teeth, and left all over them; the dust enters from without, and, mixing with this precipitate, produces that collection of nasty, greenish tartar, so offensive both to sight and smell, — a focus for acidifying fluids and the putrefying *débris* of food. Acids thus formed unite with the lime of the teeth and cause their destruction. The irregularity and crowding of the teeth are therefore seen to be not the only nor the least of the evils caused by this practice.

In the lower jaw a reverse deformity often occurs. From the position taken by the thumb, while the upper jaw is drawn out, elongated, and narrowed, the lower is pushed back and shortened, flattened in front and protruded at the sides, so that the articulation of the lower molars is thrown outside of their corresponding upper teeth, whilst the lower incisors are far inside of their proper position, — an inverse "wapper jaw." The bones of the ramus and of the infantile jaw itself, while soft, are at times literally bent back, causing the bite of the lower teeth to be an entire tooth back of its normal position, while the front portion of the jaw containing the incisors is bent upwards, so that the crowns of these teeth come close to or actually bite into the gum of the upper jaw. This is a kind of irregularity which little or nothing can be done to remedy, and the poor victim must go through life deformed and suffering from the consequences of the ignorance or weak indulgence of parents or nurse.

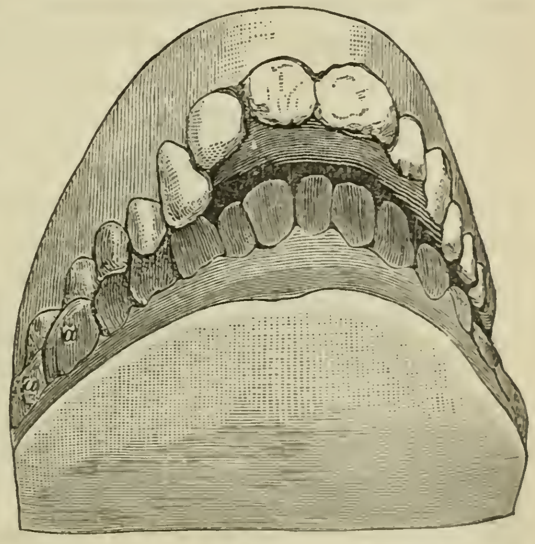

Fig. 2. Same jaw from below, showing the upward curve of the crowns of the lower incisors striking the palate. Also the under molars outside of the uppers at *a*.

Not infrequently this bending back of the lower jaw is such that, as the second set are developed, each molar strikes in turn and takes the bearing off from the anterior tooth, until at length the wisdom tooth takes the whole bearing, and the mouth can no longer be closed, the front teeth being kept apart sometimes as much as a quarter of an inch, entirely preventing proper mastication of the food, interfering seriously with speech, and greatly impairing the looks. The powerful pull of the temporal muscles, and frequent shocks both in the act of mastication and the numerous accidents of life, often set up inflammatory action in these unsupported teeth, and after more or less intensity of suffering cause their final loss. The same process is then set up in the teeth immediately anterior to these, the second molars, and they in turn are lost; and so on, until the patient has no molars for mastication, and all the work of pulping the food comes upon the weak bicuspids and front teeth. The constant inability to masticate properly is a fertile cause of dyspepsia, and it is hard to say where is the end of the disturbances occasioned, if not directly produced, by this apparently innocent habit. Along with the general deformity of the jaws and the malposition of teeth, caused directly by the changes of shape forced mechanically upon the alveolar processes, comes greater or less misplacement of the teeth from the disturbance of the tooth-germs in their infantile cysts; and there is hardly any form of irregularity that may not arise from this cause. Consequent upon the crowding and overlapping of the teeth arises caries with all its train; caries upon the lingual and buccal surfaces, disfiguring them much more than the proximal caries which occurs in the teeth of well-formed and regular mouths.

In the general category of thumb-sucking we may reckon finger-sucking, generally the fore and middle finger; lip-sucking, usually but not always the under lip; and tongue-sucking, which may deform either side or the front of the mouth, according as the child favors one or the other position for its tongue. In this latter case the whole of one side may be pushed out beyond its proper articulation, throwing the upper teeth entirely over and outside of the under ones in such a way that they not only become a disfigurement, but are wholly useless for purposes of mastication. The tongue also buries itself deeply in the soft bones of the palate, and there leaves its mark indelibly impressed, greatly injuring the voice and interfering seriously with, or rendering impossible for life, distinct articulation. These practices are not less harmful than thumb-sucking, inasmuch as they can and do go on at all hours of the day and night, whether sleeping or waking, and from their nature are less susceptible of correction than the latter.

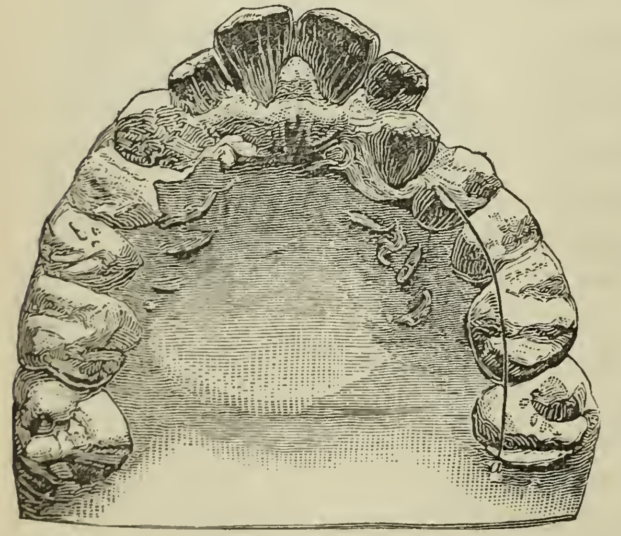

Fig. 3. Tongue sucker. *a*, line of contact with under teeth.

The vile practice of some mothers and nurses of supplying children with gingerbread and sugar-teats, so called, for constant sucking, is not only filthy in the last degree, injurious to the digestive organs by keeping the whole length of the alimentary canal filled with a fermenting, acidifying, gas-producing mass, but is the direct cause of the rapid decay of the deciduous teeth from the acids formed from the sugar, always present upon and between them. The effects of sugar upon the teeth are now well understood to be rapidly destructive, confirming the popular belief, which in this as in other cases has been found correct, from its property of rapidly fermenting when mixed with the saliva, and forming lactic and acetic acids. The warmth and moisture of the mouth render it a seat especially favorable for this process, and indeed there is no place where it is more active. The consequence is that these little innocents are the early victims of sensitive teeth, and much of their uneasiness, their tears and lamentations, at this period arises from this unsuspected source. Toothache from inflamed pulps and alveolar abscess soon follows, and the early indulgence for the sake of quietude is more than paid for by the subsequent disturbances. The crowns are lost by rapid caries, and dead roots are left to obstruct the passage of the coming permanent teeth, and turn them aside from their proper positions in the arch, adding this deformity to that caused directly by the presence of the bolus in the mouth, and its molding the soft and growing bones of the child's palate.

Mothers, in their ignorance of consequences, often encourage all these practices for the sake of their peaceful and quieting effects, and resist every suggestion that tends toward their correction. Even when warned and fully understanding the dangers, they in mistaken kindness, for temporary present good, neglect to provide against certain future evil. Even physicians of long practice have been known to advise mothers to encourage these habits, and when shown models of mouths made monstrous in this seemingly harmless manner can hardly bring themselves to believe that the special case called to their attention is anything more than an exceptional one, instead of being the type of a class. Whenever the practice is discovered no time should be lost in the endeavor to break it up, as it grows with the growth and strengthens with the strength. Even in its earliest stages this is not an easy task. The little one, with its strong sucking instincts, has found that other things besides the nipple of its nurse can give it a sort of comfort, and it sucks indiscriminately everything it can clutch and carry to its mouth, — its toys, clothes, the sheets and blankets of its bed, as well as its fingers, thumbs, and fists, — and no means but absolute confinement of its hands and the prevention of access to its mouth will suffice to prevent it. Anointing the fingers with aloes, pepper, and other bitter and pungent flavors answers but for a time, and soon loses its efficacy, for the child becomes so accustomed to the taste as either to acquire a liking for it, or else overlooks it whilst continuing to indulge in its pet sin. A loose night-dress made of light flannel without sleeves, like a bag, open at both ends, placed over the head and drawn up about the neck, leaving the head out and all the rest of the body within, but the hands free to do anything but go to the mouth, is the only real safety. With this the habit can be corrected, and with this only, and the child suffers no inconvenience or real discomfort, and is not taking constant small doses of which "many mickles make muckle" of drastic cathartics or other medicinal agents. Perseverance in this method will surely effect a cure, and nothing short of an absolute cure should be allowed; for so persistent is the habit that it is not rare to find it retained through childhood and youth, up to adult age, disfiguring the hands as well as the features, and imparting to the whole countenance a look of idiocy. With our modern appliances and methods some of these deformities may be remedied, but not all. Many are absolutely incurable, and the victim may be compelled to carry the marks of this practice and their accompanying discomforts through a long life. The "ounce of prevention is" here much "better than the pound of cure."

THE ABUSE OF CAUSTIC IN GYNÆCOLOGY.[1]

BY W. H. BAKER, M. D.

THE serious difficulties which have arisen at times from the injudicious application of escharotics to the uterus or vagina should be a warning to every practitioner against the indiscriminate use of such powerful agents. Yet we are forced to believe that, with unwarrantable frequency, application of the stronger caustics is still made by many of the profession, from the constancy with which certain classes of cases come to our observation, which must have followed and depended upon an abuse of the remedial agent. That this abuse is practiced in the best of faith we have no doubt; or that it may have been resorted to after many other milder agents have been used without effect is as clear to us. From the fact, however, that such cases as we are about to record, and others of which we read from time to time in the various medical journals, are constantly occurring, we cannot too strongly insist on, first, the careful discrimination of the cases where any caustic is necessary; and, second, the mild character of such agents which should be used. We all know, for instance, the readiness with which an abrasion of the cervix uteri may, for the time, be healed by the use of the solid nitrate of silver; yet if it be dependent upon an acrid discharge from the uterus, we shall have failed to relieve our patient, even though the abrasion is healed. If the eroded surface be the result of a laceration of the cervix, and we succeed in causing a cicatrix to form over the entire denuded surface by the action of the stronger caustics, still our patient, instead of improving, rather grows worse. For, even though we may escape the serious difficulties encountered in the cases which we are about to report, we may have made our patient a life-long sufferer. The cicatricial tissue forming over the lacerated surfaces so compresses the nerve filaments as to become a constant source of irritation; added to this is the pressure from the muciparous cysts which may have formed beneath the surface, and which, enlarging, are unable to relieve themselves by rupturing through the denser cicatricial tissue.

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[1] Read before the Boston Society for Medical Improvement, May 27, 1878.

The following cases may be cited as illustrative of the question in point: —

CASE I. E. B. entered the Free Hospital for Women, December 26, 1875, with this history: By birth American. Age forty-two years. She was married when nineteen, and had given birth to four children, the youngest being seventeen years old. Her labors were all characterized as severe, and instruments were used at the first. Menstruation began at fourteen years of age, and had been quite regular and natural up to June, 1875; but since July of the same year there had been no flow at all.

During the greater part of May, 1875, she was treated by a physician for "ulceration of the womb," by the frequent application of caustics. The menstrual flow the next month (June) was much less than usual, and accompanied by pain; the month following, it was very scanty and still more painful; and for five months subsequently, or until her admission to the hospital, it was entirely absent. For sixteen years she had complained of great bearing-down pain, backache, and pain through the pelvis; and for the past five months, at the times when she should have menstruated, there had been not only great exaggerations of the aforesaid symptoms, but severe cramps in the lower abdomen.

Examination showed the uterus low down in the pelvis, though not specially enlarged; the cervix quite congested, with the appearance of a previous laceration, over the surfaces of which a dense cicatrix had formed, which, in contracting, had evidently completely closed the external os, so that nothing but a slight depression marked its previous existence. Muciparous cysts were seen through the cicatricial tissue at various parts of the anterior surface of the cervix, which showed themselves as so many translucent spots, and which, being punctured, discharged their characteristic normal secretion.

January 3, 1876, without ether, the cervix was cut into with the uterotome at the point of depression; and, after cutting through one quarter of an inch of tissue, the canal of the cervix was found pervious beyond, and the sound readily passed to the fundus of the uterus. There was no apparent collection of menstrual fluid in the uterus. A tent of styptic cotton was passed into the wound to keep the canal patent.

The subsequent history was in every way favorable. The tent was removed after four days, and the patient went on with the appropriate treatment for the laceration of the cervix, which was undoubtedly the original cause of her uterine disease. Menstruation recurred regularly afterwards, and she was able to go on with her daily duties as a housekeeper with comparative comfort.

Case II. H. K. was forty-two years of age, and a native of Vermont. She was married when twenty, and had had one child, which was born a year after marriage, and had never aborted. Her labor was natural, but rather tedious. Subsequently, she kept her bed for several weeks, flowing profusely for four weeks, and somewhat for eight weeks more. She began to complain of backache as soon as she got up from bed, but kept about although suffering a great deal, for nine years, when she gave up and took to her bed, where she has remained most of the time since, occasionally being able to sit up for an hour.

Menstruation began at fifteen years of age, and was always regular until after the birth of her child, when it occurred each three weeks until the past year, during which she has often gone a month. The amount of the flow was natural up to her delivery; since then very profuse, though, for the past two years, it has diminished greatly in quantity. No dysmenorrhœa was remarked until after the birth of her child. She "had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse." The principal treatment which she had received from her various physicians during the twenty-one years of her invalidism was the "application of caustic to the womb."

The patient complained chiefly of intense pain in the back, great soreness and heat, with some sharp pain through the pelvis, and intense nervous irritability. She was first seen by me July 19, 1874, when the foregoing history was recorded, and the diagnosis made of old laceration of cervix, great constriction of the external os, and two sub-serous fibroids growing from the body of the uterus,— one the size of a walnut, the other of the fist.

February 1, 1876. The patient was admitted to the Free Hospital for Women. An examination then showed the external os so nearly closed that it was with the greatest difficulty that the smallest probe could be passed. Numerous cysts could be felt beneath the cicatricial tissue which covered the everted surfaces of the cervix. The smaller of the fibroids had apparently disappeared, and the larger had become diminished in size to that of an English walnut.

It was proposed to repair the cervix by Emmet's operation as soon as it could be brought into a suitable state. In the mean time, however, there being some cardiac symptoms, a careful examination was made of the chest and abdomen, which revealed an abdominal aneurism about the size of a small orange, felt at and to left of the umbilicus. It was therefore thought unsafe to perform the proposed operation, and treatment was given designed to relieve the size and cystic disease of the cervix. After three months, she was able, with care, to go about the house, and even out-of-doors a little. June 25, 1876, she was discharged, and readmitted November 25th, of the same year, and about a month subsequently developed septicæmia. A slight purulent discharge was found oozing from the extremely contracted os. As there was every evidence of a retention of purulent material in the cavity of the uterus, and as the life of the patient was in immediate danger, the external os was enlarged with the uterotome, the incisions being made bilaterally, and a canula covered with styptic cotton inserted into the canal. Nearly an ounce of fœtid pus was discharged as soon as the incisions were made. The temperature fell within a few hours from 102½° to 99°, and did not again reach 100°. In four days the canula and cotton came away during the vaginal injection, and the patient made a slow but fair recovery, and was discharged from the hospital, relieved, March 4, 1877.

The complete atresia of the cervical canal which was present in the first case, and the nearly complete closure in the second, were both undoubtedly due to the contractions following the formation of cicatricial tissue, resulting from the application of caustics to the abraded surfaces of the cervix. We might give cases in which caustics had been applied to the abrasions caused by the irritating discharges from an inflamed condition of the endometrium, instead of by lacerated cervices, as in those we have reported. But the principle involved is the same in both conditions; and we hope that the cases cited may be sufficient to suggest to the practitioner not only the propriety, but the importance, of withholding the use of the stronger caustics in this branch of surgery, until at least he has determined the true nature of the case, when we feel sure that he will accomplish his object in relieving his patient by some other means, more thorough, effectual, and satisfactory.

RECENT PROGRESS IN THE TREATMENT OF DISEASES OF THE THROAT.[1]

BY F. I. KNIGHT, M. D.

Under the head of Annotations, in the same number of *The Lancet*, we find the following comments upon this case: —

The rare and interesting case of paralysis of the posterior crico-arytenoid muscles, exhibited by Dr. Felix Sémon at the Clinical Society's last meeting, raised several important questions which hardly met with the discussion they deserved. Apart from the rarity of the case, only a few of which are on record, there are certain physiological and pathological questions involved. The man had nervous symptoms of peculiar character; the gait was that of locomotor ataxy, though it was not stated that the other symptoms of that disease were present; he had also ptosis of the left eye, slight nystagmus, and some inequality of the pupils; and, moreover, slight left facial paralysis. All the symptoms pointed to central nervous disease involving the brain and spinal cord, but probably not one lesion, but several distinct ones. There is certainly the possibility that disease of the medulla oblongata and cord might cause these symptoms, and they would point to some disseminated sclerotic or syphilitic lesion. There is therefore an *a priori* possibility that another paralysis would be due to a similar cause acting in a different position. But now the difficulty arose, which was suggested by the president, that other muscles supplied by the same nerve trunks were not involved, and that the paralysis was bilateral. A little reflection shows, however, that neither of these difficulties is sufficient to prevent the acceptance of the hypothesis of central origin. As we know, palsy of associated bilateral muscles rarely occurs in cases of disease of the cerebral centres on one side only; but this fact only shows the intimate association of the medullary centres, of the laryngeal muscles, for example, — an association so intimate that even in grave lesion of the higher centres the nervous impulse is so transmitted from one nucleus to the other in the medulla oblongata that not even a weakening results. Now, every one knows that when the recurrent laryngeal nerve is injured, or the vagus nerve trunk as a whole, unilateral paralysis of all the muscles supplied must result, and this fact alone would negative the idea that the disease could have affected one or both of those nerve trunks. We thus exclude the possibility of causation either by disease of the nerve trunks or of the higher cerebral centres. But could such a paralysis be due to a general cause, or to a symmetrical local cause acting on the muscles? General conditions, as we know, — chlorosis, lead-poisoning, hysteria, — may produce symmetrical paralysis of the laryngeal muscles, usually of the adductors of the cords. But a complete paralysis of the abductors from such causes would, so far as we are aware, be quite contrary to experience, and the supposition of such a cause, if a *vera causa*, would be to introduce a purely hypothetical condition and to ignore a marked existing one. So that we are driven to consider the possibility of central disease as the cause. Symmetrical paralysis of single muscles or groups of muscles from spinal disease is not only not uncommon, but may even be said to be rather the rule. Thus we see the palsy affecting symmetrically the muscles of the ball of the thumb and little finger in progressive muscular atrophy, usually one side being in advance of the other. Nor are cases unknown in which there has been extension of disease which had commenced primarily in the muscles of one side to those of the other corresponding, although the cord was not primarily affected; and similar cases are recorded of extension of local anæsthesia or hyperæsthesia to the opposite limb. Then comes the question of limitation to one set of muscles, other muscles supplied by the same nerve being unaffected. Here, again, we are supported by the analogy of other special paralyses. Nor is there anything far-fetched or improbable in the view that for each set of laryngeal muscles there is a separate set of ganglionic centres. Apart from the best known example of opposition of the lateral and posterior crico-arytenoids, there must be constant opposing and balancing movements of each set of laryngeal muscles, to allow of the delicately modulated actions which are constantly performed. This fact alone would suggest the existence of separate though intimately associated centres. Besides the movements in phonation, cough, etc., the vocal cords, as is well known, are slightly separated in inspiration and approximated in expiration, the abductors of the cords being, therefore, more highly specialized than some of the other muscles, and the more probably having even distinct centres. All which considerations render the more likely the view that central disease of the medulla oblongata, or possibly of the pons, was the cause of paralysis, — a view strongly supported by the associated nervous symptoms.

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[1] Concluded from page 186.

Dr. Sémon, in a communication,[1] says he had not the opportunity of expressing his views during the debate on his case, and would like to make a few comments. He says he does certainly not exclude the possibility of an organic connection between all the symptoms seen in this case; but there are some points in the history and in the progress of the disease which render this connection at least somewhat doubtful, and which seem to him to have been a little too much overlooked.

First, he has to refute a few of the assertions made in the annotation. As far as he knows there are no cases on record in which bilateral paralysis of the posterior crico-arytenoids has been produced by chlorosis and lead-poisoning; but it will be found in the abstract of his paper, published in the last number, that he has observed one case in which the paralysis was without doubt produced by hysteria (the patient being now quite restored to health), and he may add that about a month before his communication several instances of such hysterical paralysis were reported at a meeting of the Berliner medicinische Gesellschaft as having occurred in the practices of Drs. Guttmann and Fränkel. So the existence of this kind of paralysis seems to be quite established; but even if it were not, we are not driven at once to look for central lesion as the cause of the laryngeal affection. In fact, this ought to be the last resort, if no other cause could be found, as there is in the thirty-five cases now on record only one in which the post-mortem examination proved that the laryngeal disease was due to central disorder. This is Penzoldt's first case, communicated in Ziemssen's Cyclopædia, vol. iv. Some points in the description of this case make it even doubtful whether there has not been *general* paralysis of the laryngeal muscles, the adductors being less affected than the abductors. In all the other cases of this paralysis in which the post mortem was made, it was found that it was either due to *local* disorder (perichondritis, compression of the nervous fibres supplying the abductors, etc.), or *nothing but isolated atrophy* of the affected muscles was detected. The latter was the result found in three out of the six post-mortem examinations, all made by careful pathologists. This, as well as the clinical observations in ninety-eight per cent. of all cases which he knows of, seems to show that central lesion is an extremely rare cause of this laryngeal affection.

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[1] The Lancet, April 27th.

If he hesitates to acknowledge this cause for the paralysis in the present case, in which other symptoms prove beyond doubt that the patient suffers from central disease, this hesitation is, he hopes, justified by the history and the progress of the different affections. This point seems to him to have been almost completely overlooked. He quite agrees with the writer of the annotation that the other nervous symptoms — gait of the character of locomotor ataxy, numbness in the left leg, occasional incontinence of urine, slight left facial paralysis, slight nystagmus, inequality of the pupils, etc. — are most probably due to a disseminated sclerotic affection of the medulla and the spine (syphilis being with nearly complete certainty excluded). But it must not be forgotten that all these symptoms appeared nearly *two* years after the beginning of the laryngeal paralysis, in the mean time no precedent irritative symptoms having been present. Furthermore, these symptoms of disseminated sclerosis, which have appeared only three months ago, make such rapid progress that a deterioration in the patient's gait and sight is to be observed almost from week to week; while the laryngeal paralysis, which I have watched now for six weeks, is not a bit worse than it was when I first saw it. How is that to be explained? He knows very well that we often observe in these sclerotic affections an arrest for a considerable time; but he ventures to say that there is no case on record in which such an affection had taken *this* course. He will not lay too much stress upon the circumstance mentioned by Mr. Callender and himself, that in a case of central lesion it would be very curious if just those fibres of the vagus alone were affected which supply the laryngeal abductors; for the hypothesis brought forward by the writer of the annotation, that these muscles had perhaps ganglionic centres of their own, is certainly a very ingenious one, and not at all improbable with regard to the strictly opposed functions of the different fibres of the vagus. But even if we grant this possibility, how is the symmetry of the affection to be explained? If it is concluded in the annotation that perhaps one of these centres alone might be materially affected, and the corresponding on the other side might suffer only sympathetically, he must decline to admit the probability of this second hypothesis. The occurrence of sympathetic affections of the larynx is extremely improbable, and altogether opposed to experience[1] and to our present knowledge of physiology.

But is it really indispensable that an organic connection should exist between the two groups of symptoms? Is it not the simplest and most natural explanation that the patient, whose profession has exposed him more than any one else to influences of temperature (he is inspector of the district railway), had been attacked two years ago by rheumatic bilateral paralysis of the abductors of the vocal cords (by far the most frequent form of that disease), and that possibly the same or other causes two years later on led to a disseminated sclerotic affection of his medulla oblongata and spinal cord?

PROCEEDINGS OF THE ROXBURY SOCIETY FOR MEDICAL IMPROVEMENT.

F. W. GOSS, M. D., SECRETARY.

November, 1877. *Hysterical Aphonia.* — Dr. Seaverns read the following paper on a case of hysterical aphonia: —

On the 1st of January, 1877, I was called to see Mrs. A. B., a widow lady forty-seven years of age, who, after the sudden and unexpected death of her brother, had been very much broken down by grief, and had become querulous, melancholy, and sleepless, so that sleep was procured almost entirely by the use of alcoholic stimulants, and the abuse of these had of course increased her feeling of debility and her mental depression. Her general health had been good most of her life, except that severe scarlet fever in her girlhood had left her partially deaf, and she was of a nervous and emotional nature. Her menstruation was not irregular, and she had no dysmenorrhœa or other uterine symptom.

Treatment, by stopping entirely her stimulants, to which she bravely gave her consent when its necessity was explained to her, with the use of bromide of potassium and chloral, was effective after a time, and she rallied and improved greatly in health. In the latter part of February, however, she retired to bed one evening feeling extremely fatigued, and found on awaking in the morning that she had lost her voice. The aphonia was absolute, there being almost no sound except by the movement of the lips. She was not greatly alarmed at this symptom, as she had several times previously had similar attacks, lasting from one day to a week, and on one occasion extending to two months, from which she had each time perfectly recovered so as to be able to use her voice, not only in conversation, but in singing, in which she was a proficient.

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[1] See Ziemssen, l. c.

The whole history of the case and of the patient made me diagnosticate hysterical aphonia, although there had been no previous history of hysteria. I had no hesitation in giving a favorable prognosis to herself and friends.

The use of various gargles and inhalations was commenced, and continued some weeks with no perceptible benefit.

In May, faradization, both of the muscles of the larynx and of the skin, as well as general faradization, was resorted to for several weeks without improvement. The *séances* took place two or three times a week and lasted some ten or fifteen minutes; the applications were strong enough to excite muscular contractions and reddening of the skin, but *they* likewise failed to make the patient speak.

On the 12th of June, after procuring the Baumscheid instrument, I commenced a course of treatment with it, and at the second application her voice returned for an afternoon and evening, but disappeared again the next day, and after pursuing the treatment until the skin failed to respond I was obliged to give it up for want of success.

Both patient and physician being rather discouraged, about the 1st of August I recommended her to go to the sea-shore, where she remained several weeks, and came back in improved health and spirits, but with the state of the larynx unchanged. On her return she was advised to continue her tonic and out-of-door exercise, but although she was well enough to eat and sleep satisfactorily she could not talk, and became restive, desiring more to be done.

I therefore, on November 5th, recommenced the use of the Baumscheid instrument, and kept it up for two weeks unavailingly. On the 14th instant, giving that up, I ordered an Albespeyre blister two by six inches along the spine, and another two by two inches over the upper part of the sternum, both to be applied on retiring for the night. The next morning before seven o'clock a message was left at my house that Mrs. B. could speak, but was suffering greatly from the blister, and on my arrival I found this to be the case. She has continued to improve, and the cure seems now complete.

There are a few things in medicine that every physician believes himself completely master of by virtue of his being a physician. Vaccination is one of these, and hysteria another. A paper on the former would doubtless put to flight in ten minutes any ordinary medical society, and it requires considerable boldness to bring before you some remarks on the latter, although it is, I believe, a subject largely misunderstood.

The *general* opinion seems to be that in every case of hysteria some moral obliquity exists, — that the patient knowingly, and for deceitful purposes, pretends to have feelings that she does not have, feigns pain, feigns unconsciousness, or makes convulsions, and could if she would at any moment cease her demonstrations and recover from her disabilities. I doubt all this. It is very true that when a patient lies in a hysterical paroxysm, in any of its thousand forms, you may often by a violent shock, or by inflicting severe pain upon her, compel her to show some signs of consciousness, perchance enough to look around, speak, or even to recover from the spasm; and hence it is taken for granted that the symptoms are wholly assumed, and that the physician is justified in a feeling of virtuous indignation, and in the use of harsh or even brutal remedies to punish such turpitude.

Now I am convinced that this whole theory is incorrect, and that the patient really *does* suffer what she seems to suffer, and *has* the inabilities she seems to have; not that there are organic lesions of the parts complained of, but that the nerve centres are in certain conditions, or have received certain injuries, which cause these sensations which are referred to the peripheral extremities of the nerves, so that pain is felt when there is no *injury*, precisely as after an amputation sensations are experienced in limbs which have been removed. It is not that patients pretend this, that, or the other symptom, but that they really *feel* it, though they are themselves deceived in the location, and they really believe that the disability exists, and actually suffer all the pain that they would if it really did exist. It seems to me that in the cells of the brain or its ganglia, or the channels that connect these parts with the rest of the body, either lesions have taken place, or conditions have arisen, that produce certain impressions, and compel a certain method of reasoning, and a belief resulting therefrom in the reality of the sensations or pains complained of. These conditions of the central organ may be very slight and fleeting, or more or less fixed and lasting, and may be acted on by the drugs that have been found useful in the treatment of these cases, or may be overcome for the time by more vivid impressions produced by other appliances; just as in the cases of other illness where the slight delirium or wandering of the patient's mind is overcome by a straight, forcible question, or the stupor of typhoid temporarily dispelled by a sharp demand upon the attention.

The common theory of hysteria would assume that, in the present case the patient determined beforehand not to speak and persisted in it for a long time, and finally gave up the deception and made use of the muscles that she might have used at any time previously if she had chosen to; whereas I am convinced that somewhere in her nervous centres sensations were experienced which interfered with or disarranged her power of control over the muscles of the larynx, so that these muscles, although not themselves impaired, were somehow beyond her control, and that until these central sensations were removed, or the train of thought resulting from them overcome by keener sensations, or by some jar strong enough to disconnect the ordinary process of reasoning, the aphonia persisted.

This conception of the nature of hysteria, it is true, would seem to make it akin to insanity, and indeed the analogy between some cases of hysteria and some of insanity is very close, and there are authors who have considered hysteria as a kind of insanity; but for that matter one can find authors who have adopted almost *every* variety of belief concerning the nature and seat of this disease. For the most part, however, writers may be divided into two classes: the one which attributes all the disease to the uterine system, thus localizing it, so to speak; the other which refers it to the nervous system and encephalon. By these it is generally considered a dynamic lesion of the nervous system, authors differing in entitling the condition either one of debility, irritability, mobility, instability, or susceptibility, — words which no doubt for the most part mean the same thing.

M. Briquet, in his exceedingly valuable and instructive work on Hysteria, puts the matter in a tangible form by saying that in the encephalo-rachidian axis is obviously a part or division intended for the reception of affective impressions, that is of the causes which, coming from within or without, bring about pleasure and pain, either physical or psychical ; and that hysteria is the result of an injury (*souffrance*) to this portion of the nervous system. This injury, produced by moral or physical causes adverse to the economy, shows itself externally by the phenomena characteristic of different kinds of suffering, either physical or moral, and these are the phenomena of hysteria ; or, in fewer words, that hysteria consists in a neurosis of the part of the encephalon destined to receive the affective impressions and sensations, — a neurosis which is externally shown by phenomena analogous to those exhibited in the manifestation of different kinds of suffering. And he adds that to call the uterus or any other organ from which the pain arises the seat of disease is as if a person who brings sad tidings to another and throws her into convulsions should be called the seat of the hysterical neurosis. In both cases it is obvious that they are the causes and not the seat of the disease ; the seat of hysteria is in the organ which feels the effect of the causes of this malady, and which governs all those acts by which it is manifested.

The effect of remedies confirms those who believe in the intentional deception of these patients, for it is well known that the administration of very disagreeable drugs, or the application of painful remedies, or producing sudden shocks or fright often ends a paroxysm, just as it would if the patient were a malingerer; but these facts can be as well explained by saying that the mind of the patient, insensible to ordinary reasoning, needs a keener impulse to satisfy it that its impressions and beliefs are fallacious, or that certain drugs like valerian and assafœtida have a specific effect on the dyscrasia which leads to these phenomena. Moral treatment should, of course, be combined with the therapeutical in the treatment of this disease. The torture and abuse of insane patients have been long since given up, and so *should* be all harsh and brutal remedies in hysteria. If the physician's belief in the theory of malingering and deception makes him virtuously indignant, and leads him to a course of ducking his patient with water, making use of harsh words, blows, or painful flexions of the fingers and wrists, he will eventually find that the paroxysms which are in that way checked will be very apt to return, and that the patient and her friends will conceive an aversion to one who uses such remedies, and prefer some one who employs proper medical means to act on the body and mind. When a belief in your skill and the power of the remedy produces in the patient's mind a conviction that the means you use *must* be enough to cure the difficulty, then she finds relief. So, too, severe pain or sudden fright may have the same effect by turning the patient's mind from its accustomed channel and allowing the natural impulses of the body to act unrestrained by the curb which the patient's mind has been exerting. In the present case I informed the lady's brother that I thought if the house should take fire she would find her voice, although I did not recommend that he should set the house on fire. But her brother's faith in the correctness of my theory was pretty rudely shaken, for while she was at the sea-side she was one day suddenly thrown overboard, and neither the fright nor the cold bath made her speak aloud. This may, however, be partially accounted for by the fact that the accident took place very near the wharf, where the water was quite shallow, barely up to her waist, and she may not have been much if at all alarmed.

The final cure was, I think, the result of the blister; there could be no doubt of this when the end followed the means so promptly; but whether the pain was the curative agent, or whether its counter-irritant effect upon the spinal nerves removed the cause of disease, would be a question on which different opinions might justly be held. There had been throughout some tenderness complained of along the spine, and the patient's mind was fixed upon that location as the seat of disease; so that local applications to this place were indicated, either to act in the general line, which would seem most to coincide with her belief and so lead to her full coöperation, or to affect the spinal nerves. It will be remembered that the Baumscheid applications which were made in the same locality nearly succeeded, but probably were not powerful enough, — that is, either did not cause enough pain and did not sufficiently impress the mind, or did not act energetically enough upon the spinal nerves.

I have thus briefly given a sketch of a case and some views concerning the *morale* of hysteria. I have said that the general mode of speaking of such cases is as if the patient were a willful dissembler, and deserved punishment, rather than the unfortunate, *most* unfortunate victim of a disease which in its confirmed state is as dreadful as can be conceived, and the patient as pitiable as the victim of leprosy. Of course in this I do not allude to the case reported, where there was but one symptom that pointed to this disease, but to those whom we meet not unfrequently in practice, who are the more or less constant sufferers from marked types of this malady, and who deserve, I believe, not only the most careful, patient, and considerate treatment, but the deepest sympathy and commiseration of the physician.

Briquet says: "A number of young females, who become hysterical before the age of twelve to fourteen years, are condemned to a life of suffering, misfortunes, and illnesses — sometimes grave — which may last six or eight years. Some of them pass one or more years in bed with most complete incapacity, and these are the more happy. Others continue to experience suffering, perhaps less severe, but which may be protracted to the age of thirty, during which time they are incapable of performing their duties, always invalid, having as many miscarriages as births at full term, and giving birth to other *hystériques* if the babes are daughters, and to enfeebled constitutions if they are sons. And, finally, still others, in whom the malady continues to more advanced years, and who become cachectic, badly nourished, extremely irritable, prematurely old, and lead lives grievous to themselves and those who surround them."

In the discussion which followed the reading of this paper, DR. COTTING remarked that hysteria is not due to feminine organization, and that patients with it should be treated as suffering from a medical disorder. Shock is sometimes useful. The suggestions of the family are often of value in giving hints for treatment.

DR. WILLIAMS said he considered hysteria to be a disease in which those who have it have not the power of will to throw off the attack. The consciousness of the patient tends to make the actions seem voluntary and preventable. He thought the womb to be so frequently a cause as to justify the older writers in giving the disease the name it bears. Its symptoms are either pain, convulsions, or paralysis. A long-continued disease or an accident may produce hysteria.

DR. CAMPBELL said he regarded hysteria as allied to insanity. A cure was rare. Relief of symptoms may result from treatment, but the hysterical condition usually remains through life.

DR. EDSON thought it erroneous to attribute hysteria to the uterus as its source, or to women as its only subjects, saying that he treated the general condition.

DR. CALL spoke of a case of aphonia of five weeks' duration, with sudden recovery.

DR. EDSON mentioned the case of a young man of twenty-three supposed to have meningitis. The pulse and pupils were normal, but he cried and shrieked from pain, especially when any one was present. He was cured by assafœtida.

DR. WILLIAMS remarked that hysterical retention of urine was not due to paralysis of the bladder, but perhaps to spasmodic stricture of the urethra. He had in two cases found a blister to the sacrum to be of use.

[*The Journal de Médecine et de Chirurgie pratiques* for March, 1878, contains an article on laloplegia, or paralysis of the muscles of the tongue designed for the articulation of sounds. Dr. Vigier, of Grenoble, reports the case of a man aged fifty-one, to whom he was called one evening, and who had suddenly lost the power of speech. He found that the patient could not utter a single intelligible word, and could only emit some inarticulate sounds. There was no paralysis of the limbs, lips, or face. He made expressive gestures to manifest his thoughts, and on giving him pencil and paper he was able to write them down. His tongue preserved all its movements and its sensibility. It was evidently a case of laloplegia. What was its cause? The man had been dyspeptic for three years, and for the previous two months had complained of wind in his stomach and bowels. The evening of his attack he had eaten more than was his custom, and his belly had become enormously distended with gas. The next morning he was pronouncing the labials and beginning to utter some intelligible sounds, and three days later he had completely recovered his speech. During the succeeding fifteen days he had two similar attacks, but of shorter duration.

The case was one of sympathetic laloplegia, which Spring reports in his *Traité des Accidents morbides* (Brussels, 1871). Besides tympany of the stomach and bowels, this author mentions as causes of the morbid state hysteria accompanied by uterine disease and the presence of intestinal worms.

Spring reports the case of a woman, the mother of several children, who, besides having hysteric, epileptiform, and choreic attacks, was taken with complete laloplegia at certain hours of the day. She could not pronounce a syllable, drink with her lips, nor kiss her children. She could, however, swallow liquids which she sucked through a tube. One day while her physician was proceeding, during an attack, with an examination of the uterus, as the exploring finger raised the womb or pressed upon its neck her speech suddenly returned.

The experiment was subsequently repeated a great number of times, and each time that the womb was replaced by the finger introduced into the vagina speech returned, and the ability to drink and to kiss; often this power persisted during the remainder of the day.

H. Tweedy, in the *Dublin Medical Press*, reports the case of a patient who was suddenly deprived of speech and had a contraction of the muscles of one side of the face. His intellect was undisturbed. His stomach and bowels were greatly distended with gas. The patient being unable to swallow, a camphorated mixture was introduced into his stomach by means of a tube. Abundant eructations followed, speech returned, and the muscular contraction disappeared. — SECRETARY.]

Colles's Fracture. — DR. COTTING showed a patient with a recent Colles's fracture of left wrist.

The patient, a carpenter, middle aged, met with the injury by a fall from a considerable height. The fractured parts were in proper apposition, and the union was complete. There was very little if any deformity, though there was still remaining some swelling, which had been increased from going to work too soon. This the patient himself was aware of and admitted. Patients are in too great a hurry to use their limbs when union of fractures has become hardly strong enough to admit of it, and much subsequent pain, lameness, and even deformity and shortening are often the later results. They cannot be too strongly cautioned on this point. Dr. Cotting once saw a case where fragments were displaced when near complete union by the patient suddenly grasping at a falling child, and herself falling with it upon the floor. It was impossible after that to keep the parts in proper position, or for them ever to regain their good shape.

In the present case Coe's straight splints were used, the outer being shaped to receive the back of the hand. As is frequent, if not usual, this patient could not use his fingers, or grasp with them in the least, on the receipt of the accident, but their functions are now nearly restored. In another case, that of an elderly woman, who a year ago fell down a flight of stairs, striking upon the hand, there was excessive pain as well as powerlessness of the hand at the time, followed by stiffness, loss of flexion, and almost anchylosis of the joints of the fingers. The fracture itself was not remarkable in any way, and union was normal. Improvement, however, still continues.

Dr. Cotting considered that different cases required different forms of apparatus, there being no one splint that would answer for all varieties of this fracture any more than for other fractures. Many cases do well with straight splints; others will do better with bent ones, which bring the hand into a strongly flexed position — or sidewise, pistol-shaped. For the latter, pasteboard strengthened by a strip of hoop-iron answers a very good purpose, as it can easily be shaped at once to the exact angle required to maintain the fractured ends in proper apposition. The accompanying figures show the shape and construction of such a splint, and its application.[1]

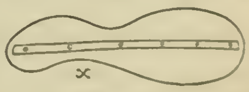
FIG. 1.

Figure 1 represents the splint in its outward aspect, to show how the iron strap is riveted to the pasteboard. As applied in Figure 2 the splint is bent at *x*, where it is also cut out to accommodate the thumb.

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[1] Dr. Hersey, New Hampshire Medical Society Transactions, 1875.

An advantage of these splints is that without injuring their strength they can be shaped by the scissors to suit the peculiarities of the case in hand. Another advantage, shown in the photographs passed round, and in Figure 2, drawn from one of these photographs, is that the strength of the iron at the wrist allows an adjustment of the bandage so as to admit examination of the seat of the fracture at any time during treatment. With no other splint can this be done so well.

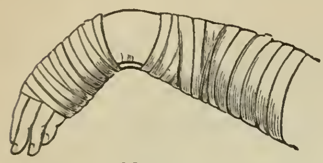

FIG. 2.

In his own case there was excessively painful numbness and utter loss of flexion of, or power over, the fingers for a long time after the injury. Reduction was easy and self sustaining. For days he did not use any splints, but later applied straight ones, chiefly to relieve the spasmodic contractions of the muscles, which were very troublesome, especially in the night, for many weeks. The recovery was in every way satisfactory and complete.

YELLOW FEVER.

EACH successive visitation of this pestilence finds us perplexed with the same questions as to its origin, its contagiousness, and its treatment, and but very little nearer a definite solution of any of them, unless our greater reliance upon cleanliness and less upon quarantine would indicate a shrewd practical suspicion that its origin is local and not imported or from contact.

On looking over an extended treatise on Yellow Fever by James Tytler, published in Salem in 1799, we were much struck by this. All sides of these questions, as then understood, are pretty fully and fairly stated, and judiciously left unsettled; a French *brochure*, however, is freely quoted from, in which, after a vivid description of the condition of the streets in some parts of New York and Philadelphia, the conclusion is arrived at that the "disease arises locally from putrid effluvia." The epidemics in Philadelphia in 1793 and 1798 are referred to, and the point made that notwithstanding the strict quarantine and the absence of any known importation, in the latter year the disease was even more virulent than in the former, when these conditions were reversed. In speaking of treatment this French writer deplores the utter ignorance of Americans of "ptisans and of the salt of nitre, so powerful against putridity," and speaks of those attacked as "going first to the apothecary, who gives the castor-oil and some alcoholic mixture; a physician is then summoned, who administers a mild puke of ten or fifteen grains of tartar emetic and goes away, saying he was called too late." We believe the tendency of professional opinion at the present day to be strongly toward the view that the poison of yellow fever arises locally and is propagated by favorable local conditions, and that it is not in the strict sense of the word contagious.

Dr. Woodhull, surgeon United States Army, made a very careful and scientific investigation of the epidemic in Savannah in the summer of 1876, the details of which were given in an extremely creditable official report,[1] which just now will well repay perusal. In the course of this report he says, "From the foregoing and similar unreported facts I believe that a careful topographical survey of the field of the epidemic would show the points of greatest sickness and those of the most offensive privy arrangements to closely coincide;" and he thus sums up his results: "From the data I have been able to collect I think it is clear, First, that there is no evidence of importation of yellow-fever poison in this epidemic. Second, that if it was imported, no system of quarantine could have guarded against it. Third, that the spread and virulence of the epidemic were closely connected with air and soil pollution, whether this pollution be considered as a sufficient explanation of the origin of the disease or not." In an article in a recent number of *The Lancet*[2] the author quotes from Statistical Reports on the Health of the British Navy, 1866, the account of an outbreak so remarkable and so instructive that we must give it, and at the same time his conclusions in respect to yellow fever, entire: —

"In 1865 yellow fever prevailed at Sierra Leone, and the Isis receiving ship, which had been there some years, had several cases on board, of which the last two were attacked on the 16th and 18th of December respectively, and both died on the 21st. A few days after H. M. S. Bristol, with a crew of five hundred and thirty-five, arrived from England, and, instead of running up to Freetown as usual, anchored in the open sea five miles from that place. It having been considered that the position of the Isis was unhealthy, a party of four officers and one hundred and twelve men were sent from the Bristol on the 28th and 29th December to remove her to a healthier one. The party returned to the Bristol each night without going on shore. Fever commenced among the men of this party on 31st December, and up to January 6th thirty-seven were attacked, and there was another on January 12th, the last which occurred. Of these twenty-one died on board from January 3d to January 10th, and two subsequently at Ascension. Twenty-nine cases were classed as yellow fever and nine as remittent. In the former the urine was found highly albuminous in every case in which it was examined, loaded with tube-casts, epithelium, and blood-cells, and black vomit was frequent, which conditions, as well as the rapid course of the disease and its enormous mortality, stamp it as malignant yellow fever. Two officers and one man of the Bristol, not of the working party, also went on board the Isis, and subsequently had fever. All the attacks occurred in the Bristol, but no one suffered who had not been on board the Isis. The best measures the circumstances permitted were taken to limit the exposure of the healthy among the Bristol's crew to the emanations from the sick, but five medical officers and twenty-four men employed as nurses were in constant and close communication with them, and fully exposed to whatever chances of contracting the disease these circumstances might involve.

"On analyzing this case these facts come out distinctly: (1) that the Isis had become a focus of the disease, whether from a contagion left by the preceding sick, or from something in the vessel herself unconnected with these, the evidence from her does not enable us to decide; (2) no case of yellow fever having occurred among the crew of the Bristol up to this time, nor any subsequently, except among those exposed in the Isis, there was no evidence of local causes being in operation in the Bristol; (3) having thus eliminated the influence of local causes, the question of communication from sick to healthy persons can be dealt with by itself, and it is found to have been inoperative. There are many cases on record which permit of the elimination of the local causes, as in that of the Bristol, and their teaching is uniformly to the same effect. Had the people from the Bristol remained in the Isis, or had the Bristol had an efficient source of the disease within herself, such as existed in the Isis, and had cases arisen among her crew who had not been on board that ship, how deceptive the evidence would have been, and how perfectly unsuited to bring out the real bearings of the case. It is mainly on instances of the latter description, which do not permit the exclusion of local causes, that those who advocate contagion in yellow fever base their reasoning, and, from what has been said above, it is obvious conclusions resting on such grounds must be illusory.

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[1] Republished in the American Journal of the Medical Sciences, July, 1877.

[2] The Lancet, July 20, 1878. Form and Contagiousness of Yellow Fever. By Robert Lawson, Inspector-General of Hospitals.

"The above details may be summed up as follows:—

"(1.) Yellow fever is not a disease always presenting the continued form, but it is met with frequently as a remittent, and even as an open intermittent.

"(2.) The sporadic cases presenting yellowness of surface and black vomit are also found to have the train of urinary symptoms characterizing yellow fever, and are consequently identical with those met with during an epidemic.

"(3.) In very many instances where persons in the vicinity of yellow fever cases are attacked with the disease, the facts do not admit of the exclusion of local causes, and such instances therefore cannot enable us to decide whether these causes or personal contagion have originated the disease; but from time to time other instances occur in which the exclusion of local causes can be assured, and in these, however extensive the exposure of susceptible individuals to the emanations from the sick may have been, the uniform result is that no communication of the disease has taken place."

The New Orleans Medical and Surgical Journal, in its August number, represents professional opinion in that city as divided between two theories with regard to the origin of the disease there.

"1st. (*a.*) Yellow fever is not indigenous here, but is always imported.

"(*b.*) Yellow fever is not indigenous here, but is imported, yet the germs may live through a mild winter, or under circumstances which protect them from cold for an undetermined time, and be awakened to active virulence when exposed to conditions favoring their growth.

"2d. This city is located in the yellow fever zone [a most indefinite expression], and there its *de novo* origin should not surprise us."

We cannot but believe that yellow fever is even less a necessary evil than either typhoid or small-pox, and that, after habits of personal cleanliness, efficient and responsible boards of health would be our best protection against it.

MEDICAL NOTES.

— As we go to press we learn the sudden death of Dr. George H. Gay, on August 12th. A protracted illness caused, we understand, by cardiac disease had prevented him from pursuing his professional work during the winter and spring, but a decided recent improvement had enabled him to resume practice. His health and spirits appeared to be unusually good. As he was about to retire for the night he complained of a slight dyspnœa, and before medical aid could be summoned he sank rapidly and expired.

Dr. Gay's position as a surgeon and physician is well known to all our readers. He was elected visiting surgeon to the Massachusetts General Hospital in the place of the late Dr. Samuel Parkman in 1855, and by his faithful and skillful work of nearly a quarter of a century has helped in no small degree to maintain the prestige of a celebrated school of surgery. His connection in former years with the Tremont Medical School as teacher of anatomy was an admirable preparation for his surgical career, as was also his connection with his father-in-law, the late Dr. Winslow Lewis. He has been a frequent contributor to this journal, and among these communications we recall those on tracheotomy, which attracted much attention and were instrumental in bringing the operation into more general use than it had been before. His career has closed at a comparatively early age, he being but fifty-five years old at the time of his death. The type of a successful practitioner, his genial face and cordial manner and matured experience will be sadly missed by his colleagues, as well as by that numerous community who have sought his services. His bereaved family will, we are sure, have the warmest sympathy of his professional colleagues in their new affliction.

— The *Medical Press and Circular* states that Mr. Fitzgerald, of Melbourne, has been highly successful in treating ununited fractures by the hypodermic injection of glacial acetic acid (five to ten minims) between the ends of the bone. At first there is a sharp pain. Any cartilaginous thickening if present is soon resolved and reabsorbed, and union is rapid, splints of course being applied.

ROYAL UNIVERSITY CLINIC, BERLIN.

EPITHELIAL CANCER OF THE PHARYNX AND ŒSOPHAGUS OPERATED UPON BY PROF. B. VON LANGENBECK.

[REPORTED BY W. B. PLATT, M. D.]

The patient was a male, German, fifty-eight years of age, occupation unknown, and of healthy family. No history of syphilis was to be obtained. He claimed to have always been healthy until three months before, when he experienced some trouble in deglutition. He had never suffered any notable pain or dyspnœa from the growth. Within the previous ten days his dysphagia had greatly increased, until even liquids were swallowed with great difficulty, and usually regurgitated or vomited. On the day before vomiting was followed by hæmorrhage, apparently from the pharynx. For the past four or five days he had been nourished exclusively *per rectum.*

Laryngoscopic examination disclosed only a swollen condition of the posterior laryngeal wall. Exploration by the finger gave no definite information. Very small œsophageal bougies passed with careful manipulation.

The patient was of medium height, with gray hair, rather slight, considerably emaciated, and very anæmic. The pomum Adami was notably thrust forward beyond its normal limits. The larynx was rotated slightly to the right, while upon the left side of the throat a diffuse swelling lay behind the thyroid cartilage, and extended apparently above it. The larynx was easily movable and seemed not involved. Pulse feeble. The patient having been "chloroformed," tracheotomy below the isthmus of the thyroid gland was performed, a tampon-canula inserted to prevent blood from running into the bronchi, and inflated, a tube ending in an inhaler attached, and the chloroform now given in this way. With the patient in the horizontal position, and the chin inclined slightly backward, the incision was made upon the left side of the throat, beginning one fourth of an inch behind the middle of the body of the inferior maxilla, extending downward at a right angle to the body of the jaw three and one half inches, inclining slightly toward the median line, and ending opposite the tracheotomy canula. The skin and fasciæ being divided, the sterno-hyoid and hyo-thyroid muscles were drawn toward the median line. The superior thyroid artery was found greatly enlarged, and was tied between two ligatures. The lingual artery was also tied before dividing. A number of small bleeding points having been seized and ligatures applied, the omo-hyoid muscle was drawn toward the median line, the stylo-hyoid muscle divided, and the digastricus set free from the os hyoideus. The lateral wall of the pharynx was now carefully brought forward and outward by small hooks. An incision. (longitudinal) was made through the infiltrated pharyngeal wall, and as the larynx could not yet be easily rotated a second skin incision, at right angles to the first, beginning an inch from the commencement of the latter, and ending in the median line, was made. The larynx was now easily rotated from left to right nearly 90°. Through the pharynx incision, two and a half inches long, its posterior wall was seen to be a cancerous mass, involving principally the inferior constrictor and lower portion of the middle constrictor upon the left side. The greatly atrophied muscles passing over and adherent to the left ala of the thyroid were implicated. The upper part of the left lobe of the thyroid gland was also infiltrated. The larynx having been rotated and held by hooks, the pharynx was easily freed from the vertebræ behind, and the diseased posterior wall excised. The part removed was two and one half inches long, about one and one half inches at its greatest width, and half an inch thick, smooth on its spinal aspect, but nodulated on its inner surface, and tapering to a point below. The thyroid cartilage (the left ala) was now freed from adherent infiltrated muscle, and a triangular piece, with the apex forward, involving the entire upper third of the ala, was removed with cutting forceps The greater part of the left lobe of the thyroid gland being diseased it was amputated, and the cut surface cauterized with the thermo-cautery. A large arterial branch from the inferior thyroid was now tied. The epiglottis was seen to be very large, flat, and apparently normal, as were also the cricoid and arytenoid cartilages. Neither the carotid artery nor internal jugular vein was seen during the operation. The lower edges of the pharyngeal incision were now fastened by silk sutures to the margins of the wound to the extent of one inch, and a flexible india-rubber tube was inserted into the œsophagus, being tied externally so as to prevent its escape. The upper part of the wound was closed by silk sutures, and the tampon-canula left in the tracheal opening for a few hours. A short and narrow scalpel was the only knife used. The hæmorrhage was very slight. Between twenty and thirty silk ligatures were applied. The operation proper lasted an hour and thirty-five minutes; twenty minutes additional for the tracheotomy and insertion of tampon-canula. At the close of the operation no material change in the pulse was observed. The patient died eighteen hours after the operation, apparently from exhaustion. The autopsy disclosed extreme anæmia only.

[It will be observed that the case from the outset was a most unpromising one; the patient, who had been practically starving for a number of days before the operation, was very anæmic and emaciated. The method of exposing the entire inner pharynx and posterior laryngeal wall by severing the upper muscular attachments of the hyoid bone and rotating the larynx is, we believe, a new one, and where operative interference is deemed advisable to prolong life may prove of great value. The injury actually done by the incisions is small; the danger of mediastinal inflammation is scarcely greater than in any considerable cutting operation upon the throat; while the entrance of foreign bodies (food, etc.) into the connective tissue spaces can with care be avoided during the first week by the use of the œsophageal catheter, etc. — W. B. P.]

SHORT COMMUNICATIONS.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. V.

Office Surgeon-General U. S. M. H. S., Washington, *August* 10, 1878.

Port Eads. — Yellow fever has appeared at Port Eads, mouth of Mississippi, on 5th inst. Thirteen cases, but no deaths, to yesterday noon.

New Orleans. — Since last report two hundred and thirty-six cases yellow fever and sixty-five deaths, making four hundred and thirty-one cases and one hundred and eighteen deaths to yesterday noon. At

Cincinnati there have been only two cases yellow fever (one previously reported), both from New Orleans, one fatal. A young man arrived at

Memphis from New Orleans July 30th, who died of yellow fever August 3d. Steamer Golden Crown, from New Orleans, had one case yellow fever on passage up, — a lady who died on board, and was buried at

Caledonia, Ill., August 4th. Two deck hands, supposed to have yellow fever, landed at

New Albany, Ind., July 25th, proved, upon investigation by Surgeon Long of this service, not to have had that disease. On a steamer at Vicksburg a case arrived from Cairo, originally from New Orleans; died of yellow fever August 9th

Key West. — No new cases yellow fever past week to noon to-day.

Havana. — Two hundred and thirty-nine deaths from yellow fever and twenty-one from small-pox during two weeks ending August 3d.

Matanzas. — From July 26th to 29th no yellow fever cases, but on 30th four new cases were reported in bay, and others have since occurred daily to August 2d, date of advices.

Cardenas. — Yellow fever in city, but not yet among shipping.

Sagua la Grande, Cuba. — One fatal case yellow fever in shipping.

Bombay. — Twenty-six deaths from cholera: week ended June 18th.

MALTA. — Outbreak of cholera on British troop-ships from India was brought under control by authorities, and disease did not lodge in Malta. Advices to July 18th.

Reports received from other places indicate good health. JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 3, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-'77.
New York.	1,093,171	586	27.87	23.42	28.71
Philadelphia.	876,118	328	19.47	18.80	21.54
Brooklyn.	549,438	255	24.13	21.51	25.50
Chicago.	460,000	185	20.91	17.83	22.39
Boston.	375,476	180	24.93	20.10	24.34
Providence.	100,000	45	23.40	18.81	19.20
Lowell.	55,798	24	22.36	19.09	22.50
Worcester.	54,937	22	20.83	14.07	22.30
Cambridge.	53,547	26	25.24	18.69	20.83
Fall River.	53,207	33	32.26	21.35	24.96
Lynn.	35,528	17	24.90	20.42	19.67
Springfield.	33,981	15	22.97	16.02	19.77
Salem.	27,140	14	26.82	20.38	21.15

AMERICAN DERMATOLOGICAL ASSOCIATION. — Programme of the second annual meeting, to be held at the Grand Union Hotel, Saratoga Springs, N. Y., August 27, 28, and 29, 1878: —

August 27th. Business meeting (with closed doors) at 9.30 A. M. Report of the council. Appointment of nominating and auditing committees. Proposals for active and honorary membership. Miscellaneous business. Papers: Introductory remarks, by the President, Dr. J. C. White, of Boston. (1.) On the Pigmentary Syphiloderm, by Dr. I. E. Atkinson, of Baltimore. (2.) On a New Method of permanently removing Superfluous Hair, by Dr. L. D. Bulkley, of New York. (3.) A Case of the so-called Xeroderma of Hebra, by Dr. L. A. Duhring, of Philadelphia. (4.) On the Proper Use of the Term Acne, by Dr. G. H. Fox, of New York. (5.) A Case of Scleroderma, by Dr. F. P. Foster, of New York.

August 28th. Business meeting (with closed doors) at 9.30 A. M. Report of the treasurer and auditing committee. Report of the nominating committee and election of officers. Election of active and honorary members. Selection of time and place of next meeting. Miscellaneous business. Papers: (6.) Case of Inflammatory Fungoid Neoplasm, by Dr. L. A. Duhring, of Philadelphia. (7.) Treatment of Hirsuties, by Dr. W. A. Hardaway, of St. Louis, Mo. (8.) Epithelium and its Performances, by Dr. C. Heitzmann, of New York. (9.) Idiopathic Cutaneous Atrophy, by Dr. J. N. Hyde, of Chicago. (10) Cure of Gangrænopsis, by Dr. H. G. Piffard, of New York. (11.) The Use of Linseed and Oil as Therapeutic Agents in Diseases of the Skin, by Dr. S. Sherwell, of Brooklyn, N. Y.

August 29th. Papers: (12.) A Further Contribution to the Study of the Xeroderma of Hebra, by Dr. R. W. Taylor, of New York. (13.) A Case of Ulcerative Scrofuloderm, by Dr. A. Van Harlingen, of Philadelphia. (14.) A Case of Recurrent Cutaneous Hæmorrhage with Urticarial and Bullous Efflorescence, by Dr. J. C. White, of Boston.

BOOKS AND PAMPHLETS RECEIVED. — Miami Medical College of Cincinnati. Nineteenth Annual Announcement. 1878–79.

Medical Department of the University of Georgetown, D. C. Thirtieth Medical Session, 1878–79. Washington. 1878.

Transactions of the Rhode Island Medical Society, 1877–78.

THE BOSTON
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LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. VII.

BY DAVID W. CHEEVER, M. D.,
Professor of Clinical Surgery in Harvard University.

Compound Fracture of Patella. — GENTLEMEN: As our first patient, I bring before you this young man merely to show you his injury. Last November he fell, and sustained a fracture of the patella. Simple fractures of this bone are common, but here we have a compound fracture, which is rare. The only other similar case which I have seen within the past four years was in a patient under the care of Dr. Thorndike, and so serious that amputation was advised. This, however, the man declined, but on account of destructive suppuration it was eventually done, and the patient died. In our case the wound is closed, the fragments of the bone are closely approximated, and, as they do not ride upon each other, are probably pretty firmly joined. The patient has constantly worn a ham splint. Under these conditions, the fragments being united, the point to decide is, When will it be safe to bend the knee? Ought we do it now? No, not even if it were a simple fracture, for it is only two months since the accident occurred, and consequently too soon to resort to passive motion. Cases of reseparation occur by too early motion. In this form of fracture bony union is so rare that some authorities deny its possibility. Bear in mind, too, that by the gradual traction of the muscles the fragments are very easily drawn apart. Quite recently Dr. Jackson showed me, at the museum, a specimen of a fractured patella, which had belonged to a man well known, who, after union had taken place, walked with ease. It was supposed to be a case of bony union. After death the bone was sawed apart, and it was found that the union was not bony, but purely ligamentous. This was an example of the repair in all fractures of the patella. Another reason why it would not be safe to bend this knee now is that synovitis still exists. It will therefore be better for the patient to wear his ham splint another month, coming in occasionally for a fresh dressing. At the end of that time we probably can begin passive motion without danger.

Dislocation of the Head of the Humerus. — The young man now being etherized was last night thrown out of a cart, and fell on his left shoulder, about which are some very characteristic symptoms, to which I wish to call your attention. Observe, first, that the shoulder has lost its normal roundness, instead of which we have this sharply pointed protuberance. Secondly, the deltoid muscle on this side is only a set of flat fibres, while on the other it is round and full. This projecting shelf is the acromion process of the scapula. I insert my finger beneath it, and find that the head of the humerus is gone, leaving an immense hollow. Another evidence of dislocation is that the elbow stands out from the body, and cannot easily be pushed to the ribs. An effective test is that when the hand of the dislocated arm is laid upon the opposite shoulder the elbow cannot be brought down to the thorax. Since the head of the bone is out of place, and the socket empty, what direction has the head taken? It may have gone downward and forward under the coracoid process, or it may have slipped into the armpit. I find it here under the coracoid, and can easily map out its contour. With my hand I can also grasp in a mass the deltoid muscle.

If the head of the bone were in the axilla I should not find this empty axillary space. The bone seems to be easily reduced, for I have only to apply a slight leverage beneath it, and pry, and it goes into its place. Now, without intention, I have created a luxation. The bone is out again. You thus see the very relaxing effects of ether. Previous to 1846 the united strength of several men, and even compound pulleys, were necessary in order to overcome the obstinate muscular contraction, which resisted all efforts to reduce dislocations. By means of ether, as you observe, the muscles are made perfectly quiescent and non-resisting. This bone was never before luxated, and yet its reduction is easy. This is unusual. Most cases offer more difficulty, but when a bone has been dislocated on several occasions it subsequently requires but little force to push it out of the socket. What are the methods of reduction? One is to sit beside the patient and place the foot, without the boot, in the axilla. Then draw the arm with force in a direction parallel with the body of the patient, at the same time pressing the foot firmly into the armpit. By this means the head of the bone is forced into its place. A second method is to lay the patient on the floor upon his back, and while the surgeon presses against the top of the shoulder with his foot he lifts the arm of the patient straight upward, and so draws the head into its socket. In a third process the patient's thorax is enveloped in a sheet, which is held by an assistant, in order to fix the scapula. The surgeon then draws the dislocated arm horizontally away from the body, and in a direction at right angles with its long axis, the assistant meanwhile pulling upon the sheet in an opposite direction. Finally, the dislocation can be reduced by bending the elbow and using the forearm as a lever to rotate the head into place, the surgeon drawing and rotating with one hand and pushing up the head of the humerus with the other. There is one dislocation which cannot be easily reduced even under ether, and that is the luxation of the proximal phalanx of the thumb. It is extremely obstinate because the sesamoid bones and tendon become entangled around the head of the bone and so fix it firmly. We then may have to introduce a tenotomy knife subcutaneously and cut the resisting fibres, after which no further trouble is experienced.

What shall be our after-treatment in this case? The best method will be to place a pad in the axilla, bind the arm firmly to the side, and put the forearm in a sling. How long should this dressing be used? In some patients ten days will suffice, others will require more time. Sometimes the deltoid muscle cannot be used for weeks. When the patient attempts to put on his coat he finds he cannot do so because the deltoid will not contract without severe pain. In such a case let the patient wear the dressing for one week, and then remove it and exercise the arm, after which reapply the bandages, etc., for another week. Perhaps this may be enough. In dislocations, muscular and ligamentous fibres are often torn by the head of the bone. These must repair as in a sprain. Do not tell your patient, then, that all will be right in a few days when perhaps an entire month will be necessary to restore motion in the arm. In young men the injury caused by a dislocation is generally soon relieved, but in old subjects, especially in the winter months, at which time the weather seems to have a marked influence, the shoulder is apt to become stiff, the difficulty obstinate, and the arm useless, perhaps, for months.

Here let me ask you to observe that our patient is a type of those cases in which, under ether, choking occurs even while the tongue is forward against the teeth, and that the patient cannot get sufficient air. The remedy consists in lifting the cheek away from the teeth. This done, air will freely enter the mouth. We have now reduced the head of the humerus, and the shoulder, as you see, has regained its original roundness. Nothing remains to be done but to apply the dressing already described.

Disease of the Hip-Joint. — Our next cases are examples of hip disease. Most of these you have seen in the wards. In order, however, to illustrate the operation which I propose to do upon one of them I am going to show you others.

Here, for example, is a boy who has sinuses from hip disease. His health is so good that I am unwilling to operate. As he walks you see a perfect picture of the effects of hip disease. The points are, the manner of walking, the spinal curve, and the bend at the knee in compensation of this curve. The boy has had hip-joint disease for years, and the head of the femur is out of its socket. These sinuses near the spine, at the sacro-iliac junction, would make me fear to operate, even if it were necessary, because there may be disease at some distant point of the pelvis, in which case an operation would do no good. Over the hip are numerous sinuses, — two open, and three closed, and much other mischief beside. All the characteristic symptoms are very evident, namely, the flat nates, the curve of the back, the throwing out of the hip, the lateral broadening of the pelvis, and the contracted knee on the diseased side. Observe, too, the difference between the two groins. On the healthy side the groin has the smooth fissure which is normal. On the other the groove is effaced and filled up by solid effusion. Another point is that when the patient is on his back he can straighten the sound but not the unsound leg. An unusual exception here is that the child can turn out the toes of the lame leg. I regret that I cannot show you a case with the early symptoms, but will use this one as far as it can be made to go.

When the boy is placed on his back, the spine does not come down to the table, neither does the popliteal space of the diseased limb. You will notice, then, that there are two large curves, one under the back, the other beneath the knee. When I grasp the child's pelvis with my thumb on the tuberosity of the ischium and the tips of my fingers on the anterior superior spinous process of the ilium of the unsound side, and, holding the pelvis firmly, attempt to move the leg upon it, I find that leg and pelvis are consolidated into one piece, and move together. There is no joint, and at the hip the leg is immovable. When I repeat this experiment on the sound side, holding the pelvis perfectly still, the leg can be moved in all directions.

Another diagnostic point is to determine whether the head of the femur is out of the socket. We accomplish this by means of "Nélaton's test," namely, by a line drawn from the anterior superior spinous process of the ilium to the tuberosity of the ischium. The test is the relation of this line to the great trochanter. On the sound side you will notice that the tape passes directly over the head or top of this eminence, while on the diseased side, as you can easily see, the head of the trochanter is one half to three quarters of an inch above the tape, and consequently is just so much higher than the trochanter of the healthy side. This proves that the head is above the socket.

In a spontaneous cure of hip disease by dislocation and false joint we have *inverted* toes. In artificial cure, by resection, the joint is made more movable and the toes can be *everted*. But here we have one of those rare and exceptional cases in which the foot is turned out. With the exception of the anchylosed joint everything about the leg seems in fair condition. I say, then, — if only the sinuses get well, — that the boy has as good a leg as any surgeon can give him. He is in robust health, and if it were not for the sinuses, in regard to which I have expressed a fear of future trouble, I should feel satisfied with the patient's condition.

Resection of the Head of the Femur. — This little girl, aged nine years, also has hip disease. In the latter part of April, or nine months ago, she began to have pain in the left hip and knee, and also to be lame. Her parents took her to Dr. Bradford, who put on an extension splint, which she wore until she came into the hospital, on the 22d of December, one month ago to-day. On entering she complained of pain and loss of appetite. The history being that of a disease which has existed nine months, and for which she has worn a good splint, what induced her parents to bring the child to us? Because she was running down, and because the treatment by splint having failed to relieve the pain, they wished to know if something else could not be done. We put the patient in bed, and, removing the splint, substituted extension by means of a weight. This change in treatment did no good, and the pain continued. The child is not much emaciated. This excoriation on the leg is the result of walking while she wore extension plaster on the leg. In walking the plaster became warm and moist, and thus excoriated the flesh. In bed this would not happen, and although the trouble is not serious, it is annoying to a sick child. I now show you the hip. Its normal appearance has been replaced by this large swelling, which is covered by large veins, and extends down the thigh. The tissues which confine it are growing thin and red, and it is evidently a cold abscess in connection with the joint. If left to itself in a few days it would break spontaneously. When we compare the two joints we see a marked difference between them. Notwithstanding there is no anchylosis at the affected joint, there is much less freedom of motion than exists on the sound side. In this case, too, there is especial difficulty in abducting the lame leg. The fibres of the abductor and the gracilis muscles of this leg are tense as a bowstring, while on the other side they are soft and pliable. This contracted condition of the muscles is a help which nature offers to protect the joint from motion. We find here, then, abscess, lameness, and an affection of the hip-joint, none of which has been helped either by treatment or by rest in bed. Here is no dislocation. The head of the bone is in its socket, as is shown by comparing the length of the two legs. One way of measuring is to take the length from the anterior superior spinous process of the ilium to the inner malleolus. By another we measure from the umbilicus to the malleolus. These measurements are almost always deceptive, and accuracy can be secured only by taking the mean of several measurements; but here we find absolute symmetry in the length of the two limbs. Nélaton's test also shows that the head of the femur is not out of the socket, and that the two great trochanters are exactly in line with each other. The other signs, namely, flat nates, etc., are significant. On moving the joint I also detect a slight grating sensation. This symptom is sometimes absent, even though the periosteum be eaten away, because the head of the bone may lie in a bed of granulations, which prevent crepitus. I have advised the parents that it is an imperative necessity to open the abscess, and that afterward we shall probably be obliged to perform resection of the femur. The abscess must have started in the capsule of the joint, and is now injuring the acetabulum, so that the sooner it is opened the better. It would inevitably break in a few days.

It is desirable to incise as near the upper limit of the abscess as is possible, in order that we may be able to probe still higher to examine the joint. I now lay open the swelling, and pus containing flakes of lymph, and thin and scrofulous in character, flows freely. After incising the abscess it is sometimes difficult to find an opening into the joint. In this case, however, my probe passes easily, and shows that the abscess extends even higher than the joint. I now propose to open the joint, for I am positive that I feel grating, and consequently the operation is justifiable. But in order to avoid loss of blood or check hæmorrhage I will first pack this cavity with sponges. In performing excision here, my intention is to make a free opening with a large flap, which will not become closed. In this operation there is usually but little more shock than in opening the abscess. But the child is not strong, we therefore inject brandy and water — one ounce of each — into the rectum.

We now place the child on her sound side. I always excise the hip by a V-shaped incision, the point of the V being over the great trochanter. This flap is turned up, and the joint opened by a series of semicircular cuts above and half round the trochanter, and over the neck of the femur. Deepening the incision I find the head of the bone in the socket, but carious, partly absorbed, and thoroughly diseased.

It is rather more difficult to do this operation when the bone is in than when out of the socket. In this, as in every similar case, when you get into the joint you are surprised to see the amount of disease which did not appear externally. Having fully exposed and dislocated the head of the bone, I remove a section of it by means of the chain saw; and now, stuffing the cavity with sponges, to arrest hæmorrhage, I wait a little to allow the child to rally, after which I shall explore the acetabulum, and examine the shaft of the bone to see if there be any more disease. Thus far the patient has not lost more than an ounce and a half of blood. In a case like this, when we have to open an abscess, I think it better to do resection at the same time. The increase of shock is but trifling, and the double operation gives the patient a better chance, as we proved last fall in a case in which on one day I opened the abscess, and on a subsequent day performed resection. The child did not do well. I consider it the best practice not only to keep the wound open, but to strap the flap up out of the way. We can then syringe and dress the part with great ease and convenience; whereas, if we let the flap fall upon the wound, pus would at once begin to burrow. The child, having had another injection of brandy and water, has rallied a little. We now empty the cavity of the abscess of the sponges, and so allow drainage from a second point. I search for the opening from the abscess into the joint, and aided by the superior incision, without which it would be difficult to find it, my probe discovers the aperture, and passes through it without difficulty. The acetabulum is fairly healthy, the shaft of the bone somewhat exfoliated. For present treatment we put an oiled rag into the cavity of the wound and pack in sponges, which will be allowed to remain twenty-four hours, or until all chance of hæmorrhage is over. The patient will be placed in bed, and extension applied.

(Three days later.) The case terminated fatally to-day. The patient did badly under ether, but these hip cases bear so much in the way of shock that I hoped she would do well afterwards. After the operation she vomited constantly, and could not retain any food given by the mouth. We therefore administered strong nutriment by the rectum, but there was evidently no absorption, and she died vomiting and unnourished.

The direct cause of death was prolonged shock. Now the question is, What would have happened if we had not operated? Remember the condition of the patient and the hip, the very large abscess, and the thin, scrofulous pus. If the abscess had opened spontaneously, the child would have been very sick. So would she if the abscess alone had been artificially opened. Besides, the disease was very extensive; so much so that the operation was imperative. In this case the head of the bone being in the socket it took very much longer to dislocate and excise it than if the disease had been in a more advanced stage, and the head on the dorsum of the ilium. In the latter condition removal of the head of the bone is really not excision of a joint.

This is the only case we have lost within a year, for in hip disease we usually have a very good success.

FLOATING SPLEEN.[1]

BY FREDERICK C. SHATTUCK, M. D.

A case of this condition which came under my care led me to look into the subject, and to think that my results might prove of some interest, especially to physicians of this neighborhood, the great immunity of which from malarial influences renders affections of the spleen comparatively rare.

July 26, 1877, I was called to a young man, a baker by trade. His family history was good, and he had never been laid up before by sickness, so far as he could remember. Was born in Boston, and had always lived here with the exception of two or three years (1873–75), which he passed near the eastern end of the Hoosac Tunnel, a region in which, I am informed, malaria is not unknown. He had never suffered from chills and fever, had never done any heavy lifting, or had any fall or injury of consequence.

July 14th, went to bed and to sleep as usual, but was wakened during the night by severe pain in the left hypochondriac region, and then discovered for the first time that he had a tumor in his abdomen. He described the pain as having been very sharp, as having drawn him down on the left side, and as having been aggravated by deep inspiration or by flexing the left thigh on the body. By July 19th the pain left him, and he resumed work, but had a fresh access during the night of the 21st, and again during that of the 22d. A physician was then called in, who enjoined close confinement to bed.

I found him in bed, without fever or any subjective symptom, but with a prominence of the left side of the abdomen dependent on a smooth, firm, clearly defined, and non-sensitive tumor, extending from half an inch to the left of the umbilicus and under the lowest ribs toward the lumbar region. Its lower border was on a level with the anterior superior spinous process of the ilium; and the whole tumor could be pushed up several inches toward the region normally occupied by the spleen, but in other directions was only slightly movable. No notch could be felt. Placing the patient on the right side, with the left arm over the head, I found marked dullness on percussion over the tumor, and full resonance over the splenic region. No difference could be detected between the lumbar regions of the two sides in the back by palpation or percussion, either when the patient was in the erect posture or when he was lying on his belly. No enlargement of lymphatic glands, and no apparent anæmia. His bowels had acted freely and regularly of late, and I made the diagnosis of enlarged and floating spleen. Dr. E. G. Cutler, of this city, kindly examined the man at my request, but without knowing my opinion of the case, and arrived at the same diagnosis. At Dr. Cutler's suggestion, Fowler's solution was ordered, with the idea of attempting to reduce the size of the organ, but the patient did not follow up the treatment. He has been regularly at work at his trade ever since, without a moment's inconvenience, but still has his tumor, which, however, seems to have contracted some adhesions, as it is now but very slightly movable.

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[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 11, 1878.

Except for the lack of any sufficient exciting cause, the history of the case would indicate that the dislocation occurred suddenly; and the enlargement may date back to his residence in the western part of the State, although he was not conscious of having absorbed the malarial poison.

The spleen is subject to various displacements: it has, for instance, been found within the left chest, in cases of congenital defects and of perforation of the diaphragm; without the abdominal wall, in cases of fissure and of large umbilical herniæ; in cases of transposition of the viscera, it occupies the right side of the body; it may be forced out of its normal position by enlargement or distention of neighboring parts, such as very great effusions into the left pleural or the peritoneal cavities, or by abdominal tumors. Lying as it does immediately beneath the diaphragm, it descends somewhat on forced respiration, and when it is sufficiently enlarged to reach the margin of the ribs, this respiratory change of position is appreciable on palpation. Under the term "floating" or "wandering" spleen, however, I would include those cases, and those only, in which the *whole organ*, whether enlarged or not, has escaped from its normal position, the ligaments which held it in place being elongated or ruptured. However low down into the abdominal cavity, or however far toward the right side an enlarged spleen may extend, it cannot be characterized as "floating" as long as its upper part occupies the normal situation of the organ.

According to Morgagni,[1] the first recorded case of floating spleen is that of Baillou, 1578; and between that time and the present day, after a pretty thorough search of the literature of the subject, I have found fifty-one cases, more than half of which are so lacking in details that I abandoned the idea of tabulating and analyzing them, as I had at first intended doing. Morgagni [1] finds ten cases recorded up to his time, but says he never met with a case himself, and upbraids Van Swieten for not having taken the trouble to give any details as to two cases which he said that he saw. Küchenmeister,[2] who published a monograph on this subject in 1865, gives Piorry the credit for having first made the diagnosis during life, all the previously reported cases having been first observed in the dissecting or post-mortem room. Dietl [3] put the second case on record in 1854; in January, 1856, Tebault,[1] of Virginia, published two cases, the first which I have found recorded in America, and in the same year Dietl published several others. Since then, cases have been reported from time to time, in most of which the diagnosis was made during life.

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[1] De Sedibus, etc., epist. xxxix.

[2] Die Wandernde Milz, Leipzig, 1865.

[3] Wien. Wochenschrift, 1854.

Like floating kidney, the affection is much more common in women than in men. Rokitansky,[2] indeed, states in his Pathological Anatomy (edition of 1861) that it occurs exclusively in women, but this is a mistake. Two of the cases published since 1854, in which the sex has been noted, were in males, my own case and that of Buss;[3] and six of the cases reported by the older writers were in males, — in all, eight out of fifty-one cases. Bartholow[4] reports a case in a man, but the diagnosis seems to me rather questionable, and I have thrown it out.

The two chief factors in the causation of dislocation of the spleen are undoubtedly mechanical elongation of the ligaments by the traction of an enlarged organ, and undue congenital laxity or delicacy of the ligaments. Dietl[5] and Förster[6] attribute the condition chiefly to the latter; Klob[7] and Birch-Hirschfeld[8] chiefly to the former; while Rokitansky[9] lays stress on successive attacks of acute enlargement, and consequent successive strains on the ligaments, abnormal length and lax attachment of which act as predisposing causes. I suspect that floating spleens are more common than would appear from the very small number of cases which have been reported, but even if I am correct in this supposition, they still remain very rare in comparison with the wide distribution of the malarial poison in even highly civilized countries, and the frequency of chronic splenic enlargement, of malarial or other origin. Consider, too, the enormous size and weight which the spleen often attains without any other change of position than is necessarily involved in the enlargement, and it certainly does not seem far-fetched to assume that congenital structural peculiarity of the ligaments may often have something to do with the production of dislocation.

The far greater frequency of the condition in females naturally suggests inquiring as to the possible influence of pregnancy. Rokitansky suggests that the relaxation of the abdominal walls, after repeated pregnancies, may favor its occurrence. Of fifteen cases analyzed by Küchenmeister with reference to this point, two were in girls under fourteen years of age; in five no mention is made of previous pregnancies; three

[1] Am. Journ. Med. Sciences, January, 1856.

[2] Band iii., s. 291.

[3] Times and Gazette, November 7, 1868.

[4] Western Journal of Medicine, March, 1868.

[5] L. c. and Wiener Wochen., 1856, No. 23.

[6] Path. Anat., page 823.

[7] Wochenblatt der Zeit. der Gesell. der Wein. Aerzti, 1869, page 597.

[8] Path. Anat., i., page 429.

[9] L. c. and Zeitschrift der Wien., etc., 1860, page 33.

were in multiparæ; and in five the dislocation was said to have occurred either during or following pregnancy. Ullmann[1] reports a case in which the dislocation occurred suddenly while the woman was running; Pirotais,[2] one in which it seemed directly attributable to the woman's being thrown from a carriage; Kilpatrick,[3] one in which it seems to have been the result of the effort of getting into a light wagon; and then there are the cases in males, which show that the rôle of pregnancy is no very important one. Cruveilhier very properly calls attention to the great frequency of perisplenitis, and suggests that this is a protection against dislocation.

The most striking feature in the pathological anatomy of the condition is the change in the ligaments. The organ normally lies with its concave surface and hilus directed toward the right, is attached to the diaphragm by the phrenico-splenic or suspensory ligament, and to the fundus of the stomach by a fold of omentum — the gastro-splenic ligament — which incloses the splenic vessels as they pass in and out behind the upper border of the pancreas. The organ is least movable at its diaphragmatic attachment, and it is this phrenico-splenic ligament which, according to Klob, is the first to feel the traction, become elongated and ruptured; the spleen then falls over forward, lies horizontally in the body with the hilus directed upwards, and depends only from the gastro-splenic attachment and vessels, thus drawing the fundus of the stomach downward by traction on the ligament, and perhaps detaching the pancreas by traction on the vessels. Rotation may then take place, and the pancreas be wound round the vessels, which become more or less diminished in calibre, or even obliterated, causing infarction and atrophy of the spleen itself, and thus contributing toward a spontaneous cure. In one of the three cases collected by Rokitansky from the records of the Pathological Institute in Vienna between 1820 and 1851, the vessels were twisted three times, and the spleen, which was still somewhat enlarged, was distorted in shape, and presented two spots of marked depression on its outer surface, with deposits of lime salts. In another of his cases, rotation of the organ had obliterated the artery and vein; and the spleen was reduced to the size of a goose-egg, and consisted of a cartilaginous capsule, with scattered deposits of bone, within which was a mere mass of detritus traversed by a few fibrous bands. Unless strong adhesions are contracted on the way, the spleen must continue to descend until it reaches the firm support of the pelvis. Rupture of the gastro-splenic ligament is a fortunate thing for the patient, the traction on the fundus of the stomach having been known to result in gangrene of the gastric wall and death.

It is easily conceivable that after rupture of the ligaments and obliteration of the vessels by rotation the remains of the vessels also should rupture and the organ float freely in the abdominal cavity, or become almost entirely absorbed. Of the latter, I have found no instance ; but Cabrolius is said, by Lieutaud,[1] to have found the spleen lying completely unattached in the abdomen of a man. I have been unable to find the original work of Cabrolius in which he makes this statement, either here or in the library of the Surgeon-General's Office, but give it for what it is worth. I have found reports of no less than four cases, and a mention of one other,[2] in which a floating spleen caused fatal obstruction of the bowels. In the case of Babesieu [3] a portion of the jejunum was compressed against the spinal column by the elongated gastro-splenic ligament and vessels ; in the case of Helm and Klob [4] the lower part of the duodenum was compressed in the same way, though the cause of death was rupture of the stomach ; in the case of Bozzi [5] the ilium and cæcum were the seat of compression, and in that of Coomans and De Cnæp [6] it was the ilium alone ; in the case of Choisy [7] the particulars are not given. Bainbrigge [8] reported a case which does not strictly come within the limits of this paper, but is so curious and unique that I will mention it briefly. A groom was admitted into hospital for fracture of the thigh ; a few days after entrance he began to present symptoms of intestinal obstruction, and died within a week. On autopsy the cause of the obstruction was found to be a supernumerary spleen which lay in the omentum, had fallen down into the true pelvis, and thus compressed the colon against the brim. The usual seat of a floating spleen is one of the iliac fossæ, more commonly the right ; and there, or elsewhere, it may contract more or less firm adhesions to neighboring parts or organs.

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[1] Arch. Gén. V., série xii., page 221.

[2] Gaz. des Hôpitaux, 1874, 84.

[3] Boston Med. and Surg. Journ., 1873, ii. page 438.

Symptoms may be very marked, vague, or entirely absent. In the cases in which the dislocation has occurred suddenly, there has been severe pain in the abdomen, with inability to stand upright ; where, on the contrary, it has been gradual, inconvenience may be wanting or very slight ; dragging sensations may be felt in the abdomen, or pressure on the bladder and uterus may interfere with their functions. In one of Kilpatrick's cases three abortions followed the appearance of the floating spleen, though the woman had previously borne three children at full term. In one of Tebault's cases the spleen was carried up by the uterus during a subsequent pregnancy into the left hypochondriac region without giving rise to inconvenience.

[1] Voigtel. Path. Anat., Bd. iii., page 142.
[2] Case of P. Frank.
[3] Allg. Wien. Med. Zeit., September, 1877.
[4] Loc. cit.
[5] Am. Jour. Med. Sciences, July, 1847.
[6] Canstatt, 1869.
[7] Bulletin Soc. Anatomique, 8, page 79.
[8] London Med. Gaz., 1846, page 1052.

The diagnosis of floating spleen should seldom be attended with special difficulty, and is in many cases very easy; complete absence of the normal splenic dullness being of course practically a *sine quâ non.* A case may be imagined with persistent dullness in the splenic region, for instance, local enlargement of the left lobe of the liver, due to the presence of a hydatid cyst, as is suggested by Küchenmeister, but centuries may elapse before any such difficulty has to be met in practice. Even if the splenic dullness be absent, the abdominal tumor should not be decided to be a floating spleen, without excluding floating kidney of the left side, extra-uterine fœtation, ovarian disease, fæcal accumulation, and enlarged but not floating spleen; aneurism and cancer should also be added to the list.

As for prognosis, danger to life is threatened only from intestinal obstruction, and from dilatation and rupture of the stomach; which, together, have caused death in seven out of fifty-one cases.

(*To be concluded.*)

RECENT PROGRESS IN THE PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

BY JAMES J. PUTNAM, M. D.

Cerebral Concussion. — It is well known that the prevailing doctrines concerning the mode of production of the symptoms of cerebral concussion, as well as of the lesions sometimes found after death, have hitherto been most unsatisfactorily vague.[1] The latest arguments favored the view that the various centres suffer impairment or loss of function in consequence of mechanical displacement of their elements, and indirectly, from disturbance of their circulation resulting from paralysis of the vaso-motor centres; and the gross lesions (hæmorrhages, etc.) were referred generally to mechanical contusion of the cerebral mass, or to vibrations sent through it from the point of injury. Dr. H. Duret has now reinvestigated the subject, experimentally and clinically, and has given his results in a lengthy monograph of great value, of which only the first, experimental, half[2] has as yet appeared. If his conclusions are not in all respects satisfactory, they serve at least to place the matter on a basis which makes fruitful discussion possible.

In the first place — drawing in part upon the experiments of Félizet — he states that when force is suddenly applied to any portion of the head, except the crown, the elasticity of the skull allows considerable depression to take place at the point struck, while on the other hand there is momentary bulging of the skull at the antipodal locality. The depressed portion of skull takes the form of a flattened cone, the height of which, when a skull is let fall from a distance of seventy-five millimetres only, is about eight millimetres, the radius of its base being about fourteen millimetres. Besides this, a certain momentary increase in the intracranial tension at large is of course induced.

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[1] For other references to this subject see these reports for 1877 and 1875.

[2] Études expérimentales et cliniques sur les Traumatismes cerebraux. Paris. 1878. 1er fascicule. Pp. 327.

What is the result of these changes as regards the cranial contents? The brain, filling completely, as it does, the cavity of the skull, cannot suffer displacement as a whole, and for the forces at stake it is practically incompressible. Neither, it is claimed, is the brain of such a nature — like a metallic body, for example — that vibrations could readily be set up in its substance, nor indeed have we any reason to think that a simple vibration or shock, by itself, could disturb the functions of the brain cells, any more than it disturbs those of the liver, or the kidneys, or the muscles.

Again, the agency through which concussion acts must be one capable of acting on parts at a distance, since hæmorrhages may occur in and about the spinal cord, even in cases where the head alone is subjected to direct injury. This agency, according to Duret, is as a matter of fact mainly the sudden changes in tension in the lymphatic, and secondarily in the vascular system, brought about in the following manner: the lymphatic fluids of the brain and cord are contained, as is known, in a central reservoir, the lateral and third ventricles, and in various other cavities and channels with which this stands in communication, of which the chief are the subarachnoid spaces at the base of the brain, the fourth ventricle, the posterior cerebellar space, the central canal of the spinal cord, the spinal subarachnoid spaces, and, finally, the larger and smaller lymph channels which permeate the entire brain and organs of sense, accompanying the blood-vessels and surrounding the tissue elements themselves. It is mainly in the walls of the larger of these cavities, and in the adjacent tissues, that the hæmorrhages and other gross changes, in cases of concussion, are discovered after death. At the moment of injury, the skull being depressed, as described (forming the *cône de dépression*), at the point struck, the intracranial tension is suddenly and greatly increased. The brain itself, incompressible as it is, and unable to escape from the skull cavity, suffers no direct injury, — unless the skull is fractured, — except possibly from slight local depression and from the "shock," strictly speaking, to which allusion has already been made, neither of which probably cause any particular disturbance.

Since, however, the entire contents of the skull are subjected at once to this sudden pressure, the tension throughout the lymphatic system is for an instant immensely increased, the course of the blood inward is checked,[1] and a portion of the cerebro-spinal fluid in the ventricles, exposing, as this reservoir does, a large surface to the compressing force of the blow, is driven forcibly out toward the vertebral canal, frequently rupturing the membrane which partially closes the fourth ventricle, and flooding the lymphatic system of the medulla.

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[1] The effect of this increased pressure upon the venous sinuses and large blood-vessels is not discussed; and, in general, it may be said that a more exact and exhaustive analysis of the processes described, from the mechanical point of view, would add to the value of the book.

A moment later the depressed portion of skull rebounds, the intracranial tension is lowered as suddenly as it had been increased, the blood rushes back, and hæmorrhages, especially in the neighborhood of certain of the cavities from which the greatest amount of displacement of cerebro-spinal fluid had taken place, are the result.

The mechanism of the occurrence of interstitial capillary hæmorrhages in the pons and medulla, where they are very frequently met with, is thus described: " In fact, at the moment at which the concussion occurs, two waves of this (cerebro-spinal) fluid are set in motion (downwards), one traversing the cavities within (this part of the brain), the other (from the subarachnoid spaces of the base) following its surface, both directed towards the neighborhood of the medulla oblongata. The arterioles of the medulla spring, as was demonstrated in my Recherches sur la Circulation des Centres nerveux, from the basilar artery, and pass from before backwards. The anterior, or peripheral (lymph) wave heightens the tension in the perivascular lymph spaces accompanying these arterioles, and the force of the cardiac contraction, or of the vascular spasm which immediately follows the concussion, is liable to burst these walls of the vessels, and thus give rise to *interstitial* hæmorrhages. Or, in other cases, in which the anterior wave is inconsiderable, and the force of the central wave relatively great, the pressure from that quarter will partially check the flow of blood from the basilar artery into the arteries in the neighborhood of the fourth ventricle, and if a sudden spasm occurs in the main trunk, or if the smaller arteries are paralyzed so that they no longer moderate the force of the blood current, ruptures of capillary vessels naturally result; such is the mode of origin of the punctate hæmorrhages (*sablé sanguin*) whether interstitial or ventricular.

" It is probable, at the same time, that many of these hæmorrhages do not occur until the moment when the pressure is suddenly removed (*moment de la décompression*), a view in favor of which we can adduce experimental evidence.

" If, namely, steady pressure be made at any point on the surface of the brain of an animal, and gradually increased until death results, but few spots of extravasation will be discovered at the autopsy. If, however, such pressure, after having been carried to a point above the arterial tension, is suddenly removed, the substance of the brain will be found riddled throughout with minute hæmorrhages."

The influence of this same *décompression* is also invoked to account for the lesions at the surface of the brain, both at the part corresponding to the point of injury and of the antipodal region. In both cases these lesions, which consist mainly in hæmorrhages, both interstitial and on the surface, blood mixed with lymph being usually found collected in considerable quantity in the meshes of the pia mater, especially in the depths of the sulci, are believed to have their origin in a sudden local diminution of intracranial tension, which acts for a moment with great force, exactly after the manner of a cupping glass. This local reduction of tension is brought about, on the one hand, by the rebound of the depressed bone at the seat of injury, on the other hand by the formation of the *cône de soulèvement* at the opposite side of the skull.

It is not indifferent, as regards either the anatomical or the clinical result, whether the concussion is the result of a blow struck on the side, on the back of the head, or, on the contrary, on the forehead or crown. In either of the former cases a portion of the violence of the shock is expended in forming the *cône de soulèvement* at the opposite side, and the symptoms produced are mainly those of disturbance or loss of the functions of the cerebral hemispheres, with but little interference with the respiration, pulse, and temperature of the body, whereas in the latter cases the "opposite side" of the skull being represented by the unyielding structures at the base, the full force of the shock is spent in driving the cerebro-spinal fluid onward towards the cavities within the vertebral canal, and serious injuries are inflicted upon the medulla with its contained centres for the various vital functions (of respiration, etc.).

It will be impossible to give here, even in outline, an account of the important experimental study of the respiration, circulation, temperature of the body, etc., in cerebral concussion, nor of the reflex effects of irritation of the sensitive corpora restiformia and the dura mater, with which the symptoms are often complicated, and we must conclude with the following brief summary of the more important statements.

At the moment of injury there is increase of tension in the lymphatic system, resulting in anæmia of the nervous centres throughout, which is augmented by a reflex vascular spasm, due to irritation of the restiform bodies. Succeeding to this vascular spasm comes vascular paralysis, of longer or shorter duration, sometimes persisting till inflammatory reaction (mainly around hæmorrhages) sets in, and death occurs. At the onset of the *vascular spasm* the functions of the *cerebral hemispheres* are abruptly suspended; the functions of the nervous centres in the *pons Varolii* are usually impaired, causing partial failure of the heart's action and the respiration; reflex tetanic spasms come on, due to irritation of the corpora restiformia and other sensitive tracts. On account of the vascular spasm the arterial tension is high, the pulse full, but slow. This stage lasts but a few seconds or minutes.

During the stage of *vascular paralysis*, somnolence, sopor, or coma come on, but the *hemispheric* symptoms remain otherwise essentially unchanged.

As regards the functions of the *pons* during this stage, the *respiration* becomes more rapid, then, if the case is severe, again slow. The *pulse* remains slow, but no longer so full, the vascular tone being reduced from paralysis of the vaso-motor centres in the *medulla.* There is complete resolution of the general muscular system.

To the *first period*, made up of these two stages, succeeds the *second* or *inflammatory and congestive period*, induced mainly by the irritative presence of the special lesions of brain substance. The *hemispheric symptoms* persist during this stage also with but little change.

The *pulse*, *respiration*, and *temperature* indicate a febrile reaction, which may end in recovery or in death.

In severe cases death may attend the vascular anæmia of the first stage.

Local lesions of the motor regions of cortex cerebri reveal themselves by localized paralyses, or spasms, the latter sometimes passing by extension into epileptic attacks.

Lesions of the dura mater cause reflex spasms of somewhat different character from those due to irritation of the motor part of the cortex cerebri.

Finally, the closest analogy exists, as regards pathogenesis of symptoms, between cases of shock from *concussion* and cases of shock from ordinary *cerebral hæmorrhage*, the mode of production of *embolic shock* being somewhat different from that in either of the others.

Progressive Muscular Atrophy. — It is well known what an immense stride has been taken within the past few years, due largely in the first instance to the brilliant generalizations of Duchenne and Charcot, towards a more exact pathology of spinal cord diseases.

Something like the following scheme of localization of the primary spinal affections had been quite generally accepted — not, to be sure, without dissenting voices — by pathologists in every country: —

Transverse diffused myelitis (acute and chronic)			occupying the entire section of a limited portion of the cord, more or less completely.
Disseminated sclerosis (*sclérose en plaques.*)			Patches of disease situated primarily in the connective tissue, and scattered without regard to the "systematic" grouping of the nervous elements.
"Systematic" myelitis, mainly affecting the white columns.	Sclerosis of the posterior columns (locomotor ataxy).		Its distribution is "systematic," and, *probably*, it is primarily a primary disease of the nerve elements rather than of the connective tissue.
	Symmetrical lateral sclerosis.		Ditto, though its pathology is as yet almost purely a matter of inference. Its characteristic symptom is muscular rigidity.
Myelitis of the gray matter of the anterior cornua.	Poliomyelitis anterior.	Acute.	Infantile paralysis. Acute spinal paralysis of the adult.
		Subacute.	
		Chronic.	
	Progressive muscular atrophy and progressive bulbar paralysis ("labio-glosso-pharyngeal paralysis").		Often classified as a special form of poliomyelitis chronica, but characterized by the absence of paralysis, except such as is directly due to the muscular atrophy.
Amyotrophic lateral sclerosis.			Not yet thoroughly studied, but believed by Charcot and others to involve at once the lateral columns and the anterior cornua; the characteristic symptoms being atrophy with contracture, beginning in the upper extremities.

It has been placed beyond a doubt that lesions of the ganglion cells of the anterior cornua (whether the larger "motor" cells or special "trophic" cells is not yet known) entail degenerative changes in the muscles to which they correspond, and observers at large, struck by the importance of this discovery, welcomed every new fact that seemed to bear out the theory, without always scrutinizing its credentials with the needful care.

The claims of *progressive muscular atrophy* to be classed among the amyotrophic spinal diseases rested upon a limited number of careful microscopic examinations, made within the past few years, with all the modern precautions, and though a number of cases of earlier date were known to have been examined with negative results,[1] the evidence furnished by them was discarded as probably unreliable. Recently, however, Professor Lichtheim, of Jena,[2] has reported a case which had been observed with great care during life, where the most minute examination failed to detect any evidences of disease either in the spinal cord or peripheral nerves, the muscles presenting the usual changes. The author dwells on the diagnostic importance of the absence of paralysis apart from that due to the muscular atrophy itself, and concludes that the typical progressive muscular atrophy is a disease of primary myopathic origin (as the so-called pseudo-hypertrophic paralysis is also believed to be even by Charcot himself), the spinal changes, which seem to occur in the majority of cases, being of secondary development.

"*Railway Spine.*" — Case of *concussion of the spinal cord*, with post-mortem examination, reported by Prof. E. Leyden.[3]

The patient, a healthy man of forty years, was severely bruised, in 1873, by being shaken about in a railway carriage, which had slipped off the track, and was dragged along by the engine for a short distance. His principal symptoms from that time onward were pain in the left shoulder, and paresis of the left arm, both of which continued until his death, though not to the same degree as at first; occasional attacks of pain in the sacral region, and in the back of the neck, and between the shoulders; "girdle-sensation;" until finally, in January, 1876, he had a sudden attack of acute myelitis, which proved fatal. The diagnosis made was myelitis due to pressure of a tumor in the lower part of the cervical enlargement of the cord. The autopsy confirmed the diagnosis, showing the tumor to be the result of chronic peripachymeningitis.

Absence of the Reflex from rapping the Tendo-Patellæ an Early Symptom in "Locomotor Ataxia." — Professor Westphal[4] has discovered that the so-called "tendon reflex" which, as is well known, is always or nearly always present in health, and is often excitable in an exaggerated form in certain diseases, especially symmetrical lateral sclerosis of the cord, disappears very early in most forms of locomotor ataxia (those where the lumbar enlargement is the part first involved), so that its absence is likely to prove a valuable early diagnostic sign, particularly in cases where the presence of insanity makes the establishment of the diagnosis by the usual means more difficult than common.

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[1] Archiv für Psychiatrie, etc., 1878, viii. page 522.

[2] These cases, together with other arguments of considerable importance, were collected in a monograph by Friedreich in 1873. (Ueber progressive Muskel-atrophie, etc. Berlin.)

[3] Archiv für Psychiatrie, etc., viii., page 31, 1878.

[4] Berl. klin. Wochenschr., 1878, No. 1.

Treatment of Sick Headache. — Dr. E. C. Seguin, of New York,[1] has found the prolonged use of cannabis ind., in doses of one third and one half grain of the extract three times daily, of great service in the treatment of chronic periodical "sick headache." It is by no means invariably successful, but in any case it is essential to keep the system for a long time (even months) under its influence.

PROCEEDINGS OF THE ROXBURY SOCIETY FOR MEDICAL IMPROVEMENT.

F. W. GOSS, M. D., SECRETARY.

DECEMBER, 1877. *Spontaneous Rupture of the Plantaris Longus.* — DR. A. H. NICHOLS read the following paper on a case of spontaneous rupture of the plantaris longus: —

Upon the 25th of January, 1869, I was called to see Mr. G. H. H., a merchant from Cincinnati visiting Boston, aged about forty, and somewhat corpulent. It appeared that whilst walking quite briskly the previous forenoon on a rather crowded thoroughfare he received, as he fancied, a severe blow from a brick or paving-stone in the calf of the right leg. The supposed blow was accompanied by a sensation of extreme pain; at the same time he felt something give way at the seat of the injury with an audible snap. So firmly impressed was he as to the precise manner in which the injury was inflicted that he at first made a search for the supposed missile, but finding the ground around him quite free from anything in the shape of a stone, and recalling that an express-wagon had passed him at a rapid rate of speed simultaneously with the occurrence of the accident, he next adopted the conclusion that his leg had been struck by the hub of the passing wheel. Although continuing to suffer considerable pain in the limb, he managed to walk two or three blocks, when he stopped and purchased a cane, with the aid of which he proceeded with still greater difficulty a short distance farther, but at length lost entirely the power of locomotion, and was compelled to call a hack.

The calf of the leg was found upon examination to be quite ecchymosed, the blue discoloration extending from the upper third as far down as the insertion of the tendo Achillis. The point of greatest tenderness was referred to the inner side of the calf at about the junction of the middle and upper third of the limb. There was no perceptible swelling at any part, nor could a depression be felt in the muscular tissue of the gastrocnemius or soleus. The history of the accident and the extensive extravasation of blood made it manifest that a rupture of a muscle had been sustained; while the locality of the pain and the apparent soundness of the larger muscles of the calf indicated that the plantaris was the muscle affected. This explanation was not satisfactory, however, to the patient, who could not be dispossessed of the idea that he had been the victim of a blow or contusion, and to set his mind at ease upon this point additional advice was thought expedient. Accordingly, upon the fourth day after the accident, he was examined by Dr. Morrill Wyman, who independently and unhesitatingly confirmed the diagnosis. The patient recovered the power of walking in about a fortnight, and at the expiration of a month lameness had pretty much disappeared.

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[1] New York Medical Record, December 8, 1877.

The immediate cause of the rupture in this case would appear to have been an involuntary spasmodic contraction of the muscle, induced by over-fatigue, the patient having had occasion to walk, upon the morning of the accident, an unusual distance. It transpired, also, that although he had recently gained in weight he had been leading a life of relative muscular inactivity; hence his muscular system, having thus become atrophied and softened, was rendered more susceptible to the effects of long-continued exercise and fatigue.

The above case, though having occurred some years ago, has seemed worthy of reporting to the society on account of the rarity of the lesion, as well as its singularity. The first mention of the involuntary rupture of muscles that I have been able to find in the English language is contained in an article On the Laceration of the Fibres of Muscles, particularly of the External Gastrocnemius, by James Wardrop, read before the Medico-Chirurgical Society, May 27, 1815, and appearing in the printed transactions of the society for the following year (1816). Mr. Wardrop was in error, however, in assuming that he was the first to place upon record a description of this accident, for a very complete account of the lesion had been previously given by M. Faques in a paper read before L'Académie royale de Chirurgie, an abstract of which appears in the Dictionnaire de Science médicale, published in 1817; while even before that, Callisen, who wrote in Latin, treated of the involuntary rupture of the muscles.

The lesion here described is infrequent, because the power of a muscle is so very great in the living subject that the tendons usually yield before the muscles, and cases are recorded where even the long bones have been fractured by the sudden, forcible contraction of the muscles. Dr. D. W. Cheever, for instance, has reported the case of a young lady in whom the humerus was fractured by the sudden involuntary contraction of the muscles of the arm. Sédillot, whose prize essay is heavily drawn upon by most writers upon this subject, collected twenty-eight cases of entire or partial spontaneous rupture of muscles, and in thirteen of these the rupture occurred at the point of origin in the tendon.

A valuable diagnostic sign in this accident is the fact that simultaneously with the reception of the injury the patient usually experiences a sudden shock, as if from some external agent; and at times, also, a distinct snap is heard. Thus in the two cases of rupture of the gastrocnemius reported by Mr. Wardrop, already alluded to, this feature is particularly marked: —

"Case I. A gentleman, when crossing a street, stopped quickly to avoid a carriage. At this moment he had a sensation in the calf of his left leg, as if it had been struck with a stone, or by some very hard body swinging in his pocket; and so strongly was he impressed with this feeling that he was surprised when putting his hand in his pocket to find it empty. . . .

"Case II. A muscular man, forty years of age, when quickly running across the street, felt, to use his own expression, as if he was shot in the leg."

The following cases of rupture of the plantaris are reported in the *Journal de Médecine et de Chirurgie pratiques* for March, 1862, the former occurring in the practice of M. Elleaumé, the latter in that of M. Lebatard: —

"M. F., a banker of Paris, while playing with his children, suddenly experienced an extremely sharp pain in the calf of his left leg. He fell, and was unable to regain his own room without support. . . .

"Mme. Ferraris, the star of the opera, who, while performing in a ballet, experienced a sudden and very violent sensation of pain in one leg, and was obliged to be carried home." . . .

The other characteristic signs of this rupture are, the pain which follows any attempt to move the injured part; the gap or deep indentation to be found at the seat of the rupture (provided the muscle is a superficial one), produced by the retraction of its torn fragments; and finally the discoloration of the skin resulting from the extravasation of blood, but this symptom, like the previous one, will be wanting in case of some of the deep-seated muscles.

According to Erichsen, the muscles which most commonly give way in this manner are the tendo Achillis, the quadriceps extensor of the thigh, the triceps of the arm, the biceps, the deltoid, and the rectus abdominis, the relative frequency of the accident occurring in the order in which the muscles are named. In nearly all the cases on record it appears that the rupture has taken place in middle-aged persons in whom the muscular development has not corresponded with the increase in adipose tissue that is apt to occur about this time of life; hence the muscles having lost in a measure their elasticity and tenacity are, when brought into sudden and severe use, the more easily ruptured. One of the most curious cases falling under this head is that reported by Boyer, in which the violent action of an emetic produced a rupture in the middle of the left rectus abdominis. Instances are cited by Curling, Gray, and others in which the recti abdominis have parted under the influence of violent tetanic spasms, while a cramp in the leg has been known to rupture the gastrocnemius. The sheath of the muscle may sustain a rupture, in which case it may in part project through the gap in the form of a round hernial swelling.

The injury may, upon the whole, be regarded as comparatively trivial, as the ruptured muscles unite without trouble in the course of ten or twelve days.

In the discussion which followed, Dr. Cotting said that the late Dr. John C. Warren, in his lectures, used to tell of a man who, jumping upon his horse, broke the plantaris longus. He knew of a patient who, in lifting a heavy weight, broke apparently some fibres of the abdominal muscles. He was partially disabled for years. Reports from clinical lectures of the hospitals seem to speak of rupture of muscles as not very rare, and the results as not serious nor long in reparation.

Dr. Williams remarked that such cases as that reported by Dr. Nichols are never fatal, and so cannot be confirmed by autopsies, their diagnosis must always be a matter of uncertainty. It is very possible that some cases which are considered only to be bruises are cases of muscular rupture.

Dr. Campbell stated that whatever might be the case with rupture of muscles, the rupture of tendons is not an unfrequent accident, and is serious in its consequences. He recalled the case of a man who could not walk for a year after an over-strain. He was treated with all sorts of apparatus, — splints, starch bandages, etc., — without improvement. There was no fracture nor injury about the joint. A case of ruptured tendo Achillis, which happened three or four months before, was still under treatment.

Dr. Nichols said that at the time of the occurrence of the accident to his patient he was at a loss to account for the considerable effusion of blood from a muscle of which the principal part consists of a long tendon; but he was subsequently reminded that the plantaris longus is an extremely variable muscle, and often is made up principally of muscular fibre, while at other times it is mainly tendinous. It may have been largely muscular in the case related. The seat of the pain was distinctly referred to the inside of the leg, the site of the plantaris. If the soleus or gastrocnemius had been ruptured the patient could not have walked as far as he did after the injury. He would acknowledge, however, that there was considerable chance for error in diagnosis.

Dr. Seaverns thought the extravasation of blood showed itself sooner than one would have supposed from the deep seat and smallness of the muscle. He doubted if the consequences of ruptured tendons were as severe as Dr. Campbell mentioned. He had seen a case of ruptured tendo Achillis recover in six weeks. He recollected that when he referred to the case at a former meeting one of the members had questioned whether the tendon would not have reunited without treatment.

Dr. Cotting said he was led to express the opinion that such might be the case from the fact that formerly after tenotomy of the tendo Achillis, in old cases of club-foot, the divided parts could not by any apparatus be kept long enough and far enough apart surely to prevent the ultimate return of the tendon to its original length.

Erythema Vesiculare of Good. — Dr. Cotting had recently had a case which used to be so called, or, sometimes, *ignis sacer.* A middle-aged gentleman slipped on his doorstep and bruised his shin bone. This caused but little trouble, and he did not pay any attention to it for several days. Swelling subsequently followed, and two small ulcers appeared over the spine of the tibia. These ulcers were dressed at first with mild ointment, but afterwards the whole swelling was covered with a plaster of Russia salve. When seen by Dr. Cotting on the fourth day after this last application, the whole anointed surface was covered with semi-purulent blisters, as from a too long-continued cantharides plaster. These blisters were relieved of their contents, and the surface was covered with flour, followed two days later with dry flocks of lint. Four days after it was first seen an eruption appeared on the uninjured leg, extending on the outside of the leg from below the knee to the pelvis, and over the pelvis to the outside of the other thigh. This eruption was in patches, and resembled measles in its general configuration. At the same time the insides of both thighs and the whole of the injured leg were covered with an intensely red, or rather scarlet blush, with here and there an occasional small island of white. The line of demarkation near the sole of the foot on the injured leg was well defined, abrupt, and as straight as though drawn by a rule. The itching and burning, starting at different points at different times, were very intense and almost intolerable, rendering the patient nearly frantic. The eruption appeared nearly all at once, did not spread as erysipelas does, nor was there any swelling or ridge along its border. Its color began to fade on the fourth day, and disappeared five days later. The epidermis peeled off as in scarlet fever, — in dust, scales, and patches of an inch or more square. The lint dressings were continued on the wounds, which drying up and ultimately doing well did not seem to be unfavorably affected by the eruption. Weak lead lotion appeared to answer best in allaying the itching and burning.

The case was remarkable in having no continued disturbances whatever. The patient sat up in bed, ate, drank, read, and slept (except for the burning), and had all his functions performed as normally as in health. Pulse and temperature were not sensibly affected.

Dr. Williams said that he had seen a rash like that described by Dr. Cotting in children from chafing. Dermatologists consider it to be erysipelatous, due to the absorption of matter from abrasions. It produces redness without much constitutional disturbance.

CONGENITAL OCCLUSION AND DILATATION OF LYMPH CHANNELS.[1]

Dilatation of the lymph vessels, whether congenital or acquired, has of late years been suggested as the element of essential importance in the origin of many cystic tumors. Where a single trunk is enlarged and varicose, containing a clear, yellow fluid, the idea of a dilated lymph vessel is readily suggested. When large cavities have been met with, single or multiple, unilocular or multilocular, and filled with a watery fluid, numerous theories have been formed as to their method of origin. As such cavities have often been found in certain regions of the body, as the neck, axilla, and perinæum, from which they project in the form of tumors, they commonly have been spoken of as watery tumors (hydrocele, hygroma-cystic tumor) of these regions. Their occurrence is still more general, however, and they may be present in the interior of the organism as well as project from its surface, and may be found in new formations as in original parts of the body. Furthermore, the collections of watery fluid may be so small as to suggest blisters when seen upon the cutaneous surface, or a symmetrical enlargement of the affected portion of the body, when deeply seated, as in the lip, cheek, or tongue.

That all these cavities have a similar method of origin, that they represent the dilatation of lymph spaces, is highly probable. With our present knowledge of the structure and distribution of the lymph channels, it is easily conceived how such results may arise.

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[1] *Congenital Occlusion and Dilatation of Lymph Channels.* By Samuel C. Busey, M. D., Professor of the Theory and Practice of Medicine, University of Georgetown, etc., etc. New York: William Wood & Co. 1878. Pp. 187.

The varicose tubes, blisters, and larger cysts are sometimes associated with enormous enlargements of the part with which they are connected. Virchow has shown the intimate relation borne by elephantiasis to alterations of and processes occurring in the lymphatic system, and has furnished abundant evidence of the association of tissue growth with the affection of the lymphatics. In such cases the new growth takes place rather in the fibrous tissue of the part in which the radicles of the lymphatics are to be found.

Still another series of hypertrophies of the extremities are to be met with, — giant growths, as they have been called, — where there is no direct evidence of an alteration of the lymph system, but which may conveniently and temporarily be grouped under the term elephantiasis, from the extreme deformity resulting. The fibrous tissue of the affected extremity is not so much altered however, as the fat and bone. Indeed, the deformity is rather to be regarded as an excessive formation of all the tissues of the part concerned than as an irritative or inflammatory process in the fibrous tissue.

In the present volume Professor Busey has collected sixty-eight cases which include elephantiasis associated with dilated lymph vessels, the elephantiasis arabum, pachyderma-dermatolysis, and cutis pendula of various authors, also the instances of hypertrophied extremities without apparent alteration of the lymph system. He has added the cases of macroglossia and macrocheilia recorded by Virchow and Billroth, and numerous reports of lymphangioma and lymphanglectasis. His attention was drawn to the subject by the occurrence of a case in his own experience, and he has made most commendable use of his proximity to the National Medical Library to obtain abstracts from the original reports of most if not all of these cases.

Such a work is beyond criticism. One can but admire the enthusiasm, patience, devotion, and disinterestedness displayed in a labor of this sort. The value of the book can hardly be estimated as it represents a book of reference almost wholly intended to save time. There is no doubt that many a seeker will have occasion to be thankful to the author for the information given, and the suggestions made. R. H. F.

GYNECOLOGICAL TRANSACTIONS.[1]

Most excellent taste is displayed in the simple but effective dress in which the Transactions appear; and the quality of the contents of this volume is quite in harmony with the impression which is derived from the general inspection. Fruit is not always picked by the hand that plants, but it is certainly the privilege of the founders of this society to reap a harvest that is both early and rich. The book carries its own proof of an origin in a body at once dignified and intelligent, earnest and industrious. Its publication will give some indication of the wide range of interesting subjects to which gynæcology may properly turn its attention, and will elevate that specialty in the estimation of the profession. It will help to establish the necessary distinction between the true gynæcologist, scientific, liberal, progressive, and the practitioner who, with narrow views, and selfish, rigid methods of thought, expends all his energy upon the treatment of the *uterus*, that organ whose innocence has not always prevented it from being the victim in the execution of an unjust judgment.

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[1] *Transactions of the American Gynecological Society.* Volume II. Boston: Houghton, Osgood & Co. 1878.

In the full discussions which are reported may be found the best possible review of the several papers to which they are appended. The words of the various authors, in the statement of fact or the expression of belief, fall with all the force of the living voice upon the quick and ready ears of competent critics, from whose decisions we are not disposed to appeal, whether they commend or challenge the language to which they listened. Still further, the discussions have a great value for the reason that there is so much which belongs to medicine, that simply represents the balance of conflicting opinions. "We have yet to determine what the truth is, in regard to many of the most important points, on which, every day, the profession is called upon to decide and act."

Dr. Barker is to be thanked for the spirit of generous conservatism which pervades his excellent address. The adoption of his sentiments will assure the safety and strength of the society. The report on the corpus luteum will be eagerly read by all who have any interest in physiological matters, and is a timely and invaluable contribution to the literature of forensic medicine. So many years have elapsed since Dr. Dalton made his first investigations that the subject is not new to him. Yet his recent studies come to us with a delightful freshness.

Dr. Skene makes some very useful suggestions, by the aid of which the obstetric operations, which the sense of touch has hitherto performed in darkness, may now be done in the light, under the guidance of the eye. The admonitions of Dr. Lusk respecting the use of chloroform in labor are well stated and well explained, and will be most cheerfully received in the city which first witnessed a complete, certain, and safe anæsthesia.

The subject of normal ovariotomy, as described by Dr. Battey, is briefly discussed in the president's address (page 39) with due delicacy and fairness. His heroic remedy suggested as a radical measure can find favor for the present only at the hands of radical men. Boldness rather than ingenuity is its striking feature. Although it implies a good deal of violence to many ideas that are firmly established in the medical mind, yet it is neither safe nor proper to condemn it without a patient hearing of its claims, for progress in science is often simply a process of correction. The duty of its friends and advocates is a difficult one; they must prove the inefficiency of other methods of treatment in these cases for which they propose this operation, and must then demonstrate the safety and efficacy of the operation itself. These things done, the question of the acceptance and recognition of this novel procedure may be submitted to the profession.

The cordial tribute to the memory of Dr. Buckingham will be appreciated by all who knew the sterling qualities of his character, and admired his loyalty to the profession.

The copious gynæcological index, which forms a portion of the volume, has a self-evident value, and is the certificate of uncommon interest and industry on the part of some devoted member. It is not possible, within the limits of a short notice, to do full justice to a book that touches so many topics. We accept it as an undoubted acquisition to medical literature, and bespeak for it a careful perusal. If the society shall realize the promises which are contained in the favorable auspices under which it has commenced its labors, and if in the performance of its annual work it shall continue to receive assistance from the large experience and full maturity which have thus far lent their aid, it will lead one branch of medical thought, it will become the authority in one department of practical medicine; its transactions will be a professional benefaction. A. H.

COMMITMENTS TO INSANE ASYLUMS.

The case of Captain J. P. Holm, who was sent to the McLean Asylum last week, has received much notice in the papers, and has become a proper subject for public comment. Captain Holm, of Malden, is a man sixty-two years of age, has had a shock of paralysis, and, as his family allege, has shown signs of mental derangement for some time. In order to prevent his intended departure from the country he was examined by Drs. Walker and Rowe of the Boston Lunatic Hospital, and with the concurrence of proper legal advisers was sent to the McLean Asylum. Some of the business acquaintances of Captain Holm, having seen no evidence of insanity themselves and knowing that property matters were necessarily affected by the transaction, became suspicious that the family were actuated by some improper motive, and took steps to have the matter investigated. We do not propose to discuss this case in detail, as it will be examined before a proper tribunal unless the parties in interest come to a mutual understanding without. We may add, however, that Dr. Sullivan, of Malden, now in Europe, had been his family physician for twenty-five years, and advised the family of his insanity before leaving home.

Cases like the above must, in the nature of things, now and then occur. Insanity will often come on insidiously, and manifest itself in the home conduct and family relations before it is observed by acquaintances and business friends. The emergency will also arise when summary action is justifiable. In case of threatened or actual violence this may happen, but equally so when the patient threatens to leave his home or the country, or when he is squandering his property or giving away money, or making business transactions which impose on the public. A fortnight's notice is required in an application for guardianship, which process would apply in many of these cases if a hearing could be obtained at once.

A case similar to the above occurred last year, when an old gentleman, insane, but not decidedly dangerous, was about to start for Australia with a large part of his personal property. He was arrested at the station, examined by Dr. Fisher and the late Dr. Tyler, and sent to the McLean Asylum. His business friends, all most respectable and intelligent men, suspected his children of improper motives, as they had observed no insanity in the case. After a full hearing before a judge of probate his insanity was established, a guardian appointed, and the patient allowed to go at large. The fate which his family dreaded soon after befell him. He died alone, in a fit, on board a St. John's steamer.

We believe the laws in regard to the commitment of the insane are at present sufficient to prevent injustice, and certainly are sufficient to prevent its long continuance by detention of improper cases in our asylums. There are two methods of admission known to the law, one for private patients on a permit of trustees, bond, and certificate of two physicians, who are bound to make both "personal examination and due inquiry," and one for public cases by application to a judge of probate, in which case the certificate must be sworn to, and sometimes evidence given. We believe that in all counties but Suffolk a notice is served on the patient to be present at a hearing if he desires. In Suffolk County there are so many poor and homeless insane, many of them being picked up by the police, that any delay in getting them to comfortable quarters in a hospital is a hardship, and a special court would be occupied much of the time if any large number should have formal hearings. The patient can, however, claim a hearing, and whenever he does so, or whenever in the opinion of the examining physicians he ought to have one, he has it. There are several methods of redress for the patient on arriving at the hospital. He can write to counsel, and have his case brought up on a writ of habeas, or to any friend who can petition the supreme court under oath, setting forth that in his opinion the patient is not insane. Upon this petition the judge will appoint three commissioners to examine him. If in a state hospital he can appeal by means of the letter-box in each ward to the board of State Charities, whose duty it is to examine him. It is incumbent on every superintendent at once to notify any relatives whose names he can obtain. To make the laws more stringent would work great harm to the insane generally, who require hospital treatment. It is seldom, if ever, that persons not at all insane are sent to hospitals. Sometimes relatives are too easily alarmed by demonstrations of violence, and now and then may take advantage of existing mental disorder of a mild form to relieve themselves of a burden they ought to have borne. In every case the public should learn to wait calmly for a full statement of particulars before judging, and the relatives of an alleged insane person should invite a judicial examination of the case *before* seeking his admission to a hospital, whenever it is likely to be required at all, as the odium of a hasty and unwarranted commitment would fall heavily upon them. The public is more ready to believe in badness of motive with which it is familiar, than in obscure forms of insanity with which it is unfamiliar. Well meaning persons who interfere in family matters should remember that it is worse to impute base motives to respectable persons than to allege insanity on evidence of a private nature, or to act without taking the public into one's confidence. We learn that Dr. Jelly, after nine days' close observation of Captain Holm, is clearly of the opinion that he is insane, and unfit to take care of his person or property. An application for a guardian has been made, and a hearing appointed for September 3d.

DR. WOODWORTH'S VIEWS ON YELLOW FEVER.

In view of the rapid spread of this disease and its reported appearance at Cincinnati we publish the following remarks, taken from a circular issued by the Surgeon-General to the Marine Hospital Service: —

The weight of scientific evidence seems to warrant the conclusion that yellow fever is produced by an invisible poison capable of self-multiplication outside of the human organism, which it enters through the air passages. The poison-germ or miasm is a product of the tropics. In this country, yellow fever has prevailed in most of the Gulf and Atlantic cities, and in many of the towns along the Mississippi River. In some instances it has been carried inland with the people fleeing from infected localities, but it has never shown a disposition to spread epidemically at points remote from the continuous water-roads of commerce, or to lodge in high, salubrious places. The cities of the Great Lakes have always been free from the disease. Yellow fever cannot be said to be endemic in the United States, from the fact that in some years it does not appear, though the imported germ undoubtedly survives the mild winters. It appears to have about as much resistance of cold as the banana plant. When the banana stalk is killed down by the frost, the yellow fever does not recur until again imported. The germ is transmissible. It is capable of being transported in the clothing or personal effects of passengers and sailors, but its spread from one city to another is chiefly accomplished by vessels, — their damp, filthy holds and bilge water being its favorite lurking places. Confinement, moisture, and high temperature favor the multiplication or virulence of the poison. When a wharf or spot of ground or a house becomes infected, the poison at once commences to spread, creeping slowly in all possible directions, continually enlarging the area around the centre of infection unless checked by disinfection, as has undoubtedly been done by the use of carbolic acid in New Orleans in former outbreaks. Yellow fever is not communicated from the sick to the well; the sick and well being dangerous only as possible carriers of the poison-germ or miasm. In support of this assertion it may be stated that at quarantine hospitals where the effects of yellow fever patients are burned, or otherwise thoroughly disinfected before the admission of the patients, the attendants do not contract the disease. This has been demonstrated many times. All well persons whose effects have been disinfected may be considered harmless after six or seven days have elapsed from the time of leaving an infected district or vessel, as the period of incubation of the disease lasts from two to six days. This simplifies the question of quarantine — absolute land-quarantines being deemed impracticable — and indicates the direction of preventive measures to the vessel, cargo, or the locality, if the poison have found lodgment on shore. A vessel may escape infection if kept clean and dry, and if all parts capable of being closed are frequently subjected to the fumes of burning sulphur, and the men employed on board are compelled to bathe and change their flannels daily and not allowed to sleep on deck or in the hold of the vessel. There is an example of a ship trading between Havana and New York, upon which these precautions have been enforced for a period of twelve years, and not a single case of yellow fever has occurred on board. Though not sufficiently demonstrated to state as a fact, still there seems good reason to believe that much may be accomplished by individual prophylaxis — by the use internally of small doses of sulphate of quinia at regular intervals, and of tincture of iron and chlorate of potassa. As the poison enters the system through the air passages it has been suggested that the nasal passages be bathed frequently with a solution containing quinine, to be applied by means of a nasal spray.

MEDICAL NOTES.

— We call the attention of our readers to the slip prepared by Dr. F. H. Brown, and published by the American Metric Bureau, Boston, Mass., which has been furnished with this number of the JOURNAL. All those who desire to discard the present system and adopt the new one will find this little table a useful addition to their pocket-book. It gives a clear, concise, and practical illustration of the decimal system so far as every-day medicine is concerned. It is intended to cover the whole ground. The advantages of the system are shown in a few short paragraphs. Tables for determining values and for conversion, a prescription written metrically, and the proper doses of the drugs most frequently used are given. The slip will be sent gratis to any one making application for it to the Bureau. The energy with which this work has been pushed by the gentlemen having it in hand is deserving of praise.

— From a report of the autopsy of the late Dr. George W. Gay made by Dr. A. T. Cabot, we learn that death was caused by œdema of the lungs resulting from mitral disease of the heart. This organ was slightly hypertrophied, particularly on the left side. The edges of the mitral valve were thickened, and the chordæ tendineæ were much stouter and shorter than normal, producing a marked insufficiency. The vessels of the lungs were carefully searched for emboli, but none could be found. Apart from a certain amount of congestion the abdominal organs were healthy excepting the left kidney, which contained three small calculi, and was in a state of parenchymatous and interstitial nephritis.

— The McDowell monument, about to be erected at Danville, Ky., will consist of a shaft of granite, thirty feet high. The style will be Doric. On its base is the following inscription: "Beneath this shaft rests Ephraim McDowell, M. D., the father of ovariotomy, who by originating a great surgical operation became a benefactor of his race, known and honored throughout the civilized world." On the right side of the base is a laurel wreath, with the inscription, "A grateful profession reveres his memory and treasures his example." On the left side is an historic inscription, with the date of his birth, attendance at the University of Edinburgh, and his first ovariotomy in 1809. On the posterior face is the inscription, "Erected by the Kentucky State Medical Society, A. D. 1879." An "ovarian jubilee," says the Detroit *Lancet*, is expected at the next annual meeting of the society.

— Dr. Matthews Duncan will probably be the next president of the London Obstetrical Society.

SHORT COMMUNICATIONS.

A CASE OF GANGRENOUS INFLAMMATION PERFORATING THE INTESTINE, FOLLOWED BY RECOVERY.[1]

BY JEROME WILMARTH, M. D., UPTON, MASS.

H. C., aged twenty-nine, always enjoyed good health until his present sickness, except that he was conscious of something like a weakness in the right hypogastrium, which would occasionally pain him, but had never made any serious inconvenience, nor had it interfered with his doing full work, which for the past several years had been blocking hats in winter and making boots in summer.

On December 14, 1877, he ate of fresh pork and mince pie. On the same day he worked two or three hours turning a grindstone, which seemed to produce some uneasiness in the afterward affected part. Two days later he came home from Milford in the evening, feeling chilly. Very soon after this he felt severe pain in the abdomen, beginning in the right hypogastric region, where it was the severest. There was also fullness, tenderness, and dullness on percussion in the latter locality. The pulse was 84, the temperature 101.50° F. I applied acetic cantharidal vesicant, which blistered well, and gave but little relief.

December 22d. The pulse had risen to 90, the temperature to 102.50° F., and the general appearance of the patient indicated that something of a grave character was at work, with a very threatening aspect, the precise nature of which was not fully apparent. Great restlessness and debility seemed to be prominent symptoms, which were combated by the use of quinine, hydrate of chloral, milk, and beef tea. These conditions subsided somewhat only to reappear with greater force, and on December 24th an erysipelatous inflammation appeared, being most intense in the right hypogastric region, extending over half of the right lumbar region above, and down inside of the right thigh, involving also the scrotum. This was succeeded by a gangrenous appearance beginning at a point just below Poupart's ligament, near or at the external ring. The pulse now rose to 116 and the temperature to 103° F. An abscess rapidly formed, pointing at and breaking through the external ring (one A. M., December 27th), discharging freely fœtid water and pus. From this point the gangrene extended until it covered a space in the right hypogastrium five or six inches long and from one to three inches wide, and also extended to the scrotum, until about two thirds of the outer integument was destroyed.

On the 4th of January, 1878, a mass which I thought to be of the omentum, the size of a large hen's egg, passed through and out of the external ring in a gangrenous condition, followed by half a pint or more of pure pus. From this opening pus, occasionally mixed with blood, continued to ooze two or three weeks.

On the morning of January 13th I discovered a fæcal ball the size of the meat of a filbert in the hollow of the external ring. On removing the ball there appeared an opening large enough to allow the ball to pass to or from the intestine. The nurse said one other ball of similar size passed out of the opening during the day. This was all that was ever seen to come.

At this time the patient was apparently doing well, and continued to improve without any material drawback until recovery took place.

The discovery of the fæcal ball gave rise to the question of its true character, and to be sure of no mistake it was given as thorough an inspection as means at hand would allow.

On being satisfied that it was fæcal matter I was surprised to find no other unfavorable symptoms, although careful search was made for them, under the impression that a fatal result was very liable to follow this condition.

The following opinions and accounts of cases gave me courage to hope for recovery in this case.

Dr. Cheever entertains the possibility of cure in his City Hospital Report for 1870. In treating upon perinephritic abscess he uses the following language: —

"It may be urged, supposing a communication already existing between the intestine and the abscess, that there is danger of an artificial anus being the result of surgical interference. Yet in each and all such cases I would advise an operation on the ground that it would be better even to have an artificial anus capable possibly of cure than to die outright or to have years of misery from sinuses, etc." In Hamilton's Military Surgery cases are reported which have a bearing on this subject, although not exactly parallel, inasmuch as his are perforations by gun-shot wounds, while the subject of this paper was by inflammatory process and abscess. Three examples are given (see figure 331) from battles in the Wilderness, in which rifle balls entered the upper part of the thigh, penetrating the viscera of the pelvis. The wounds for a few days gave free exit to fæces, but at the time of writing were closing rapidly. Also for other cases see pages 350, 351, 352, and 353.

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[1] Read before the Thurber Medical Association, May 16, 1878.

Dr. Hamilton says many ingenious plans have been devised from time to time by surgeons for the cure of artificial anus, most of which, no doubt, have their application in certain cases. Yet we must confess that experience has greatly modified our original views as to the urgency of the demand for surgical interference of any kind. It is our present opinion that the majority of these cases get well spontaneously, and not an inconsiderable proportion very speedily, if simply allowed to take their own course; and we believe therefore that in all cases it is best to defer surgical interference for a period of several months at least.

In our case the process of healing went on rapidly and without any drawback. On May 13th the external surface had healed except a space about the size of a thumb nail. The external ring closed in some time before, making a smoother covering, apparently as good as the original.

No surgical interference has been used. The treatment of the gangrene was yeast poultice. After the slough came off we applied bromo-chloralum with a sprinkler and by wet cloths. Internal treatment was supporting and nourishing, such as quinine, wine, with beef tea and eggs, and as recovery progressed solid food, according to the patient's desire within reason. During the sickness, after the opening of the abscess, the action of the bowels was very good. For one or two days micturition was slightly interfered with just before the opening of the abscess; otherwise there was no trouble with that function. No vomiting occurred except during the first two or three days of sickness.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. VI.

Office Surgeon-General U. S. M. H. S., Washington, *August* 17, 1878.

New Orleans. — Since last report four hundred and seventy-one cases yellow fever and one hundred and twenty-one deaths, making a total of nine hundred and two cases and two hundred and thirty-nine deaths, of which one hundred and eight cases and twenty-nine deaths occurred during twenty-four hours to noon yesterday.

Port Eads. — Thirty-three cases of yellow fever and five deaths during the week to yesterday evening.

Grenada, Miss. — The first case of yellow fever occurred July 25th. To noon yesterday there had been one hundred and twenty-five cases and forty-seven deaths.

Mobile. — One death from yellow fever yesterday, — a colored woman, who, it is reported, had been on an excursion to Biloxi, Miss., July 24th.

Cincinnati. — Since last report a young woman living in a house where baggage believed to be from New Orleans was stored, died of a fever resembling yellow fever. Another case of fever of similar character has since developed in the same neighborhood. Steamer John A. Porter from New Orleans had four deaths from yellow fever before arriving at Cincinnati, which city she passed on Friday bound for Pittsburgh with several cases on board. One man who left the John Porter at Louisville proceeded to Cincinnati by rail, where he was sent to hospital on the 13th inst. with fever. The steamer Golden Rule passed Cairo yesterday evening for Cincinnati, with two cases yellow fever on board. Two deaths occurred on board that vessel Thursday.

Several people from New Orleans and Port Eads have sickened or died of yellow fever on their journey northward; one case at Covington, Ky., one at Cairo, and three deaths at St. Louis.

Memphis. — The first case of yellow fever occurred August 13th, in the person of a woman whose eating-house was frequented by river boatmen. The disease has spread rapidly, but has not yet assumed a malignant type.

Vicksburg. — Yellow fever has appeared since last report; the first death occurred

August 12th. Advices to noon to-day report the outbreak of the disease near the river front within the last fifteen hours, from whence it is spreading rapidly.

HAVANA. — Ninety-nine deaths from yellow fever and nine from small pox during the week ended August 10th.

CARDENAS AND SAGUA LA GRANDE, CUBA. — No cases of yellow fever during the week ended August 9th.

MATANZAS. — Decrease in yellow fever: week ended August 9th.

CALCUTTA. — Ten deaths from cholera: week ended June 15th.

BOMBAY. — Twenty-five deaths from cholera: week ended June 25th.

Reports received from other places indicate good health. JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

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MR. EDITOR, — It would be a thankless task to warn the public of the dangerous characteristics of any patent medicine, but cases have recently come to my knowledge in which physicians have prescribed "cuticura" to patients having diseases of the skin, and with very bad results.

Whether suits for malpraxis would lie in such cases it is not for me to say, but it does seem proper to state, as a warning, that the nostrum referred to is a very powerful irritant to the skin, whether this is healthy or diseased.

Thirteen cases of acute dermatitis from the use of "cuticura" have now come to my knowledge, and I have heard indirectly that another physician in this city has had fifteen such cases.

My first case was that of a man having a slight eczema of the fore-arm. He received a simple prescription and departed, but returned in a few days, and there was hardly a hair follicle upon the whole fore-arm which was not the seat of a well developed pustule. General pain, heat, redness, and swelling were also present. He had not used the prescription, but had substituted, upon his own responsibility, the "cuticura." The use of this being discontinued, the patient speedily recovered.

My latest case was seen in consultation. "Cuticura" had been applied to a leg affected with chronic eczema. The result was an acute dermatitis, which had lasted a week at the time when the patient was seen.

At the time of application, a slight itching being felt upon the thigh, a single "wipe" was given across the part with the rag used in applying the "cuticura." The result was an irregular, reddish, hot, painful stripe marking exactly the line of impact of the rag.

Very truly yours, EDWARD WIGGLESWORTH.

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COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 10, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	560	26.63	23.42	28.71
Philadelphia.	876,118	301	17.86	18.80	21.54
Brooklyn.	549,438	257	24.32	21.51	25.50
Chicago.	460,000	204	23.06	17.83	22.39
Boston.	375,476	180	24.93	20.10	24.34
Providence.	100,000	33	17.16	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	25	23.68	14.07	22.30
Cambridge.	53,547	31	30.10	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	11	16.11	20.42	19.67
Springfield.	33,981	16	24.50	16.02	19.77
Salem.	27,140	10	19.16	20.38	21.15

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VOL. XCIX. — THURSDAY, AUGUST 29, 1878. — NO. 9.

FATAL CASE OF HYDROPHOBIA.

REPORTED BY G. B. SHATTUCK, M. D., AND R. H. FITZ, M. D.

THE following case is valuable, and has seemed to justify a somewhat detailed report, for several reasons, namely: there is no indication that the victim was bitten at any time by a rabid animal, and if a case of hydrophobia, the virus must have found its way into the system in some other manner (the disease would therefore probably be designated by the skeptic as lyssophobia or hysteria); the case came under the observation of an unusual number of capable observers, who were of one mind as to the diagnosis; the history and surroundings of the patient previous to the fatal attack were very carefully ascertained, and the course of the disease from its first manifestation carefully recorded; the supposed period of incubation (about eight months) was considerably longer than the average in hydrophobia; curara was used unsuccessfully; a very careful post-mortem examination of the gross and microscopic appearances tends to confirm the diagnosis, and to support previous researches.

Mr. A., produce dealer, fifty-four years of age, was brought to the Massachusetts General Hospital, Wednesday, January 23, 1878, about two P. M., and was entered in the service of Dr. Cabot, with whose kind permission the case is reported. At that time and subsequently the following history was obtained by Mr. H. L. Morse, house pupil, and the reporter: —

Toward the latter part of last May a mongrel dog, kept in Mr. A.'s family as a pet and companion for the children, and which was in the habit of licking the faces and hands of members of the family, became queer, very restless, thirsty, and snappish. Whilst out with Mr. A.'s son he bit another dog, reported to have subsequently died rabid. The dog had snapped at members of the family, but had never bitten them; on one occasion he bit through Mr. A.'s boot, but left no mark on the skin, as to which point both Mr. A. and his wife were positive. When his dog returned home after having bitten the other animal, Mr. A. shot him at his wife's request. Letting the dog lie for twenty-four hours, he then put on a pair of gloves, slipped the noose of a rope around the body, and with these precautions dragged it away to be buried. Nothing more was thought of the matter in the family. The dog's place was taken by some rabbits, one of which bit Mr. A. in the thumb about six weeks before his entrance to the hospital, but there was no reason to suspect these animals of any disorder.

Mr. A. was a vigorous, energetic, muscular man, intelligent and sensible, described by his friends as a person who could do a great deal of work. He was of a somewhat nervous temperament, always very temperate in his habits, and his health had been uninterruptedly good with the exception of occasional "sick headaches with dyspepsia;" these had latterly been less troublesome. He had had business worries, but for some months preceding his illness his affairs had been in a more satisfactory condition. His wife noticed nothing unusual about him until Sunday morning, January 20th. His business friends thought him perhaps a little less lively than usual the day before, Saturday, but otherwise they too report him as in usual bodily and mental condition up to that day. A short time before his illness he had declined to join an organization offering to its members the benefits of mutual life insurance, and had also been engaged in discussing business arrangements for the ensuing summer.

Sunday morning, January 20th, he complained of severe pain in the back of head and neck, but said he would go to church. He did so, but returned feeling worse. Passed a bad afternoon and night. Monday morning was cross and irritable, but went into Boston to his business; returned at an early hour much depressed, saying, "I have come home to die." He drank some hot lemonade, but half an hour later tried to drink water and could not on account of "spasm of the stomach." A physician was summoned; Mr. A. was unable to swallow liquid, but took some powders. He expressed a great dislike to his attendant, refused to see him again, and said he should be all right, and would go into town in the morning.

Tuesday morning, January 22d, Dr. Fuller, of Charlestown, was called to the patient, who had taken no nourishment since Sunday night. He found great aversion to fluids and draughts of air, and considerable nausea accompanied by copious expectoration of a yellow, offensive matter, streaked with blood. A subcutaneous injection of morphia produced no effect. At an interview on Tuesday afternoon the idea of hydrophobia was first suggested. The patient discussed it very rationally, but repelled the suggestion as impossible.

On Wednesday, January 23d, Dr. Cabot saw him in consultation with Dr. Fuller and advised his immediate removal to the hospital. He entered the hospital about two P. M., exhibiting the symptoms already mentioned. In the course of the afternoon he was persuaded, with some coaxing, to swallow a little hominy and milk; was extremely restless, frequently jumping from his bed, and required two attendants; complained of distressing feelings in the region of the stomach. January

24th, 2.30 A. M., there were injected by the rectum twenty grains of chloral and forty grains of bromide without relief; this was succeeded by a spasmodic attack. 3.30, one fourth grain of morphia subcutaneously afforded some relief to the stomach. 3.55, one tenth grain of curara relieved the symptoms referred to the stomach, and the patient was quieted for a time. 4.45 A. M., thirty grains of chloral and forty grains of bromide by the rectum. The patient continued constantly spitting, and the convulsive seizures succeeded each other pretty rapidly.

Eleven A. M. Pupils greatly dilated, pulse almost imperceptible; one fourth grain of curara dissolved in alcohol administered subcutaneously. The pulse improved. Twelve M. Convulsive attack with vomiting. One fourth grain of curara. 12.8 P. M. Convulsive attack, enema, beef juice one ounce, brandy one half ounce. 12.30. Another attack. 12.40. Curara one half grain. 12.50. Convulsion and vomiting. 12.55. Temperature by the rectum 104.3°. One P. M. Convulsion and vomiting. 1.5. Again. The attacks consisted of vomiting, spitting yellow bilious matter, and throwing himself wildly about; they were followed by increasing collapse, and in the intervals the patient was comparatively quiet, though never wholly rational, and always very suspicious of some of his attendants. In two places ecchymoses had appeared at the points of injection. 1.20. Curara one half grain. 1.25. Attack terminating in a convulsive seizure with cold skin, dilated pupils, and almost complete absence of pulse. 2.25. Curara one grain. 2.30. Rectal temperature 105°. 2.35. Convulsive attack, followed by almost complete cessation of pulse and respiration for some minutes. 2.39. Slight convulsion, less spitting, pupils normal. 2.50. Slight attack of same character. 2.55. Beef juice one ounce, brandy half an ounce, by the rectum. 2.56. More violent attack, less spitting, pulse very small. 3. Three tenths grain curara. 3.1. Spitting and oppression of breathing. 3.7. Mild paroxysm. 3.12. pulse stronger, respiration better. 3.26. Pulse very weak. 3.27. Curara one third grain. 3.33. Vomiting and spitting. 3.34. Enema, beef juice and brandy. 3.37. Enemata were rejected. 3.42. Spitting. 3.48. One third grain curara. 3.54. Pulse barely perceptible. 4.15. Curara one third grain. 4.23. Spitting; has been failing rapidly for the previous half hour. 4.45. Very slight spasm. Five P. M. Dead.

Although there is no history of the patient's having been bitten, the affectionate habits of the dog and the occupation of the patient, which rendered him very liable to have cuts and scratches upon his hands, offer a plausible explanation of the contraction of the disease, and one not invalidated by his precautions at the time of the dog's death. His neglect to take steps affording a provision for his family and his plans for business at a distant date are strong indications, if any were needed, that he did not anticipate any calamity himself. The length of incubation, — about eight months, — though exceptional, is very far from being unique.

A word as to the use of curara in this case. Omitting the one tenth of a grain of curara administered at 3.55 A. M., about four grains were injected in all between eleven A. M. and 4.15 P. M., in nine separate doses, varying in amount from one fourth of a grain to one grain. No marked physiological effects, however, distinctly referable to the curara were observed, although the drug entered the circulation and was of good quality, as was subsequently shown. We are led to think that the solution of curara should be very carefully prepared, as mentioned in the JOURNAL of March 7, 1878, page 316, that larger amounts than might be anticipated should be used, and that for a fair trial the curara should be resorted to at an early stage. In the present case three different specimens of curara were used; two of these were tested upon frogs, and proved of rather more than average activity. That the curara entered the circulation was thus shown: About one half pint of urine — the whole amount secreted in twenty-four hours — was drawn from the patient's bladder after death. Three cubic centimeters of this urine were injected in three portions within half an hour into a frog; in less than two hours there was decided paralysis of motion. The same amount of normal urine was introduced under the skin of another frog without effect.

Five one thousandths of a gramme of the first chloroform extract of curarin, obtained from the hydrophobous urine by Professor Wood according to Dragendorf's method, were introduced under the skin of another frog, and marked physiological symptoms were manifested within two and a half hours. With .0045 grammes of the second chloroform extract no results were obtained.

The autopsy was made on Friday, January 25th, nineteen hours after death. There was marked rigor mortis and lividity of the lowermost parts of the body. The inspection of the body gave no evidence of unusually rapid decomposition.

While exposing the spine the surrounding tissue seemed to contain less fluid than usual. No abnormal appearances were observed in the membranes of the spinal cord, or upon the surface of sections made across the latter at intervals of an inch throughout its length.

The calvaria was readily separated from the dura mater, both the bone and the membrane presenting no unusual appearances. The longitudinal sinus contained a soft gelatinous clot, only partially filling the cavity. The pia mater was occasionally spotted and streaked from fibrous thickening, and was unusually injected over the greater part of the convexity of the brain, the vessels being often varicose. The meshes contained a considerable excess of clear fluid, and the membrane was readily detached from the brain. On section of the brain no unusual appearances were observed in the ventricles or cerebral substance beyond abundant puncta cruenta.

The pericardium was not abnormal. The right side of the heart was distended with abundant soft, dark coagula, the left side contracted, though containing a moderate quantity of dark, clotted blood. The valves presented no unusual appearances. The muscular wall of the heart, with the exception of the interventricular septum, seemed to be normal. Numerous dark-red discolorations were distributed throughout the septum, most abundantly towards the endocardium and apex, and were found with the microscope to be due to slight diffuse hæmorrhage.

The external appearances of the lungs were not remarkable. On section these organs were uniformly injected and aerated, rather dry except at the dependent portions, where very slight hypostasis was indicated. The microscopical examination of the tissue showed nothing unusual. The bronchial tubes not remarkable with reference to injection or contents. The larynx and trachea presented no unusual appearances.

The tongue was dry towards the apex; the follicles at the base were not unusually enlarged. No abnormal appearances were observed in the pharynx or submaxillary glands. The œsophagus from the bifurcation of the trachea downwards was extensively œdematous; otherwise not remarkable. The stomach was contracted and nearly empty. Its mucous membrane was moderately opaque, without evident ecchymoses. The longitudinal folds were not abnormally discolored, but were coated with a yellowish and somewhat opaque mucus. The small and large intestine presented no unusual appearances.

The spleen, liver, and kidneys contained an increased quantity of blood; otherwise they were not remarkable. The bladder was distended with about a half pint of urine.

The only striking appearances observed at the general examination were the cardiac hæmorrhages and the œsophageal œdema. The former are to be considered as of different origin from the ecchymoses frequently observed in death from suffocation, on account of their seat and the absence of hæmorrhages in those parts where they so often occur in this form of death. There was no evidence that the œdema of the œsophagus was of inflammatory origin.

The chief interest naturally centred in the possible condition of the nervous system, and the spinal cord, medulla oblongata, and portions of the cerebral convolutions were preserved in Müller's fluid for the purpose of a microscopical examination. Positive results were obtained from the medulla alone; it should be stated, however, that the cord was imperfectly hardened, so that the sections obtained from it were comparatively useless. The changes found in the medulla were observed throughout its length, and were most commonly met with in the posterior portion, especially in the immediate vicinity of the floor of the fourth ventricle. The alterations were most extreme in that part corresponding with the calamus scriptorius. The appearance most frequently met with was an infiltration of the adventitia of the veins with small, round cells, both large and small veins being affected. So abundant was their distribution that upon longitudinal section the wall of the vessel seemed to be paved, as it were, with these cells. As a rule, the vessels thus modified were distended with blood, and it seemed probable that the observed changes were pathological, as the vessels in other parts of the medulla did not present such an appearance. The injection of the veins was so complete at times that their section was of a dark-brown color and quite opaque, the individual corpuscles being indistinct, and the condition deserved to be spoken of as a thrombosis. It was evident from transverse sections that the indifferent cells were not simply adherent to the inner surface of the vessel, but were actually within the wall, nor was there any evidence of an increase in the relative proportion of white to red blood-corpuscles.

Another appearance often met with was that of hæmorrhage. In general the extravasated blood was found within the perivascular, particularly venous, spaces. The sharply-defined outline of the corpuscles and the absence of granules of blood-pigment indicated that the hæmorrhages were recent. Transverse sections of the injected vessel, with its wall infiltrated with round cells, and a perivascular accumulation of red blood-corpuscles, were often met with. In none of the sections were ruptures of the vessel wall seen. At times the wall was somewhat collapsed, the contents correspondingly less, while around the vessel a considerable hæmorrhage was apparent. The hæmorrhages were usually limited to the perivascular space, the blood rarely having made its way between the nerve fibres or into the gray matter.

Finally, an appearance was sometimes met with which may be spoken of as a miliary abscess. Occasional minute agglomerations of indifferent cells were seen, but their relation was such as to suggest their probable origin from sections through limited portions of the infiltrated adventitia already referred to. In two instances, however, actual abscesses were found, — one within a convolution of the olivary nucleus, another in the immediate vicinity of a pigmented ganglion cell in the upper part of the medulla. The former was the larger, and it was found in a part where none of the cellular infiltration of the vessels already mentioned was observed.

In brief, then, the alterations were a diffuse cellular infiltration of the adventitia of the veins, venous injection and thrombosis, perivenous hæmorrhages, and miliary abscesses.

It is interesting to compare the results of this examination with those recently made by other observers, which have been published from time to time of late years. Vascular injection and hæmorrhages have been recognized by most investigators, beginning with Hammond and Benedikt, whose articles appeared in 1874 and 1875. Both of these writers attach considerable importance to the presence of hyaloid masses and granular material. The former are very often met with in specimens of brain and spinal cord which are hardened in chromic acid and its compounds, and are most probably the result of decomposition independent of any pathological changes. They may be met with in normal specimens, and are to be regarded as evidence of an incomplete hardening of the specimen. It of course remains open whether the hyaloid masses referred to by various observers are of the same nature, a question only to be decided by a critical examination of the sections by several persons. Such masses were frequently met with in the present case, and their characteristics correspond with those described by Benedikt[1] as due to granular disintegration. Kolesnikoff[2] first mentioned in detail the accumulation of cells in the perivascular spaces, an appearance which later observers have generally noticed. It does not appear in his paper (a preliminary communication merely) whether he refers to the adventitia of the vessel, the lymph space of Virchow and Robin, or the perivascular space, the lymph space of His, lying between the adventitia and the nervous tissue.

He also describes the presence of collections of round cells in the lymph spaces surrounding the ganglion cells, as well as within the latter. Benedikt alludes very briefly to the presence of numerous lymph corpuscles within the lymph vessels, and to numerous "inflammatory nuclei" surrounding vessels. Appearances similar to those described by Kolesnikoff were found by Coats,[3] who makes no mention, however, of hyaloid masses. Cheadle[4] follows with a description of injection and hæmorrhages, but he apparently did not observe any accumulation of round cells.

A most excellent report of the examination of the nervous centres in four cases of hydrophobia is made by Gowers,[5] and is illustrated by a number of careful drawings. The changes observed by him correspond very closely with those found in the present case. He notes the presence of granular *débris* within the spaces surrounding the vessels, a condition not met with in our sections. Gowers states that "there is certainly nothing in the histological characters of the lesions which can be regarded as specific of the disease. . . . But the distribution of the lesions, their intensity in the lower part of the medulla and in the neighborhood of certain nerve nuclei, is, as far as I am aware, peculiar to the disease, and constitutes a distinguishing anatomical character."

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[1] Virchow's Archiv, 1875, lxiv. 557.

[2] Centralblatt für die medicinischen Wissenschaften, 1875, 853.

[3] Lancet, February 3, 1877.

[4] Medical Times and Gazette, December 8, 1877.

[5] Transactions of the Pathological Society. 1877. Reprint.

Benedikt, in a second article,[1] in which the paper of Gowers is noticed, states that the miliary accumulations of leucocytes are not absolutely characteristic of lyssa.

It is to be stated that all the recent observers are by no means agreed as to the uniformity of the anatomical appearances in rabies. Schultze[2] was able to find nothing else than a vascular injection, and is inclined to doubt the existence of other observable changes in the nervous system in these cases. Such an inference is, at present, unjustifiable, and the general agreement of the results of the investigation of a considerable number of cases in Russia, England, Germany, and the United States indicates the importance of a thorough histological study, certainly of the medulla, though also of portions of the brain and spinal cord. It is to be hoped that the English committee now investigating the subject may be able not only to confirm but also to extend our knowledge of the changes to be found in so interesting an affection. Although the advocates of the existence of such a disease as hydrophobia may feel strengthened in their position by the discoveries already made, their opponents are not yet overcome by any evidence which has thus far been offered. A few more cases examined with the thoroughness, skill, and impartiality exercised by Dr. Gowers are likely to furnish the evidence which shall enable the pathologist to determine the exact position of the complex group of symptoms which has excited so much interest, both within and outside the medical profession.

CONCERNING CORONERS AND THE THEORY AND PRACTICE OF INQUESTS.[3]

BY THEODORE H. TYNDALE.

Mr. President and Gentlemen, — Foremost among the objects for which a state is formed is the security of life. Without now taking the time to dwell further on the topic, it is enough to say in general terms that all human civilization and all progress, material and spiritual, were impossible without the firm assurance of this security. To maintain this assurance in its integrity is therefore of supreme importance to the state, and in endeavoring to do this it will exert all rightful means to prevent acts which tend to weaken the public sense of safety, and will seek promptly and certainly to inflict punishment for them, to the end that they may not occur again.

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[1] Virchow's Archiv, 1878, lxxii. 425.

[2] Deutsches Archiv für klinische Medicin, 1877, xx. 383.

[3] A paper read before the Massachusetts Medico-Legal Society at its annual meeting held at Boston, June 11, 1878.

There are in all communities persons whom nothing but fear will deter from wrong-doing. Such persons, having no other power to restrain them, must be taught to feel the force of the law of cause and effect, must be taught to understand that the violation of a law is invariably followed by punishment as its logical and natural result, just as the seed brings forth the fruit; and to this end nothing is more effectual than *swiftness* and *certainty.* Minds that are incapable of taking in the theoretical statement will nevertheless unfailingly understand its force when practically demonstrated. To such you must bring home the conviction of inexorable and undeviating law, *swiftly* and *surely* applied.

How most effectually to reach this end, how best to attain this swiftness and certainty, this is the question which must settle all methods and detail for us. Be a system or tradition never so dear to this individual or to that nation, if they do not tend to establish this precision of result they are useless, and must give place to that which will. To this question all preconceived notions and pet ideas must yield. If they do not bear this test they have no right to prevail.

The special subject before us is the discovery of the cause of a death where the cause is unknown, and there is suspicion of wrong-doing. What is the purpose of the discovery, and how is the proceeding conducted? The answer to the first question is the *theory*, that to the second is the *practice*, of inquests.

What object is sought for in investigating the cause of a death? Why should the state wish to ascertain it? Why not bury the body and be done with it? Because a crime may have been committed, and the life of the state depends on its suppression of crime. Because to let one death go by unnoticed is directly to bid for concealment of crime, and to publish to the wrong-doer that he may with impunity kill his enemy, if only he take care that no one shall see him, and that the body shall be found without indication as to who perpetrated the deed.

With a private death, a death by natural means, the state does not concern itself. But a death becomes a matter of public concern the moment it is suspected that another's act caused or contributed to it. For the state cannot suffer a death by the act of another to be treated as a private injury, and to be privately adjusted, lest punishment take on the form of revenge, and beneficent protection become perverted to prejudiced persecution; lest heat and haste endanger justice, and passion subvert judgment. The moment, therefore, that a crime is thought to have been committed, the state interposes its calm and impartial hand; if it be a crime, the individual injury is merged in the danger to the common safety; if it be not, the individual is shielded from wrongful oppression. It has ceased to be a private matter between victim and accused, and has become a state affair. These considerations lead us to the answer: —

THE PURPOSE OF AN INQUEST IS THE DETECTION OF CRIME.

Incidentally it effects other ends as well, such as the exculpation of the innocent accused, the reassuring of the public mind, etc., but all such results, however important in themselves, necessarily flow from and are merely incident to the single purpose, *to detect crime.*

The word inquest or inquisition has been variously used to express both the entire proceeding by which the result was arrived at, and that result itself. Thus, for instance, an inquest was held and an inquisition (or verdict) was returned by the jury formerly, and there are instances in the English law of prisoners being tried upon the "inquisition," the "inquisition" being traversed and quashed.

The inquest now, however, is the inquiry. Formerly, you know, it was conducted by a coroner, and was known as a "coroner's inquest." This official originally had diverse functions, which in process of time have partly become obsolete, but in greater part have one by one been transferred to other officers specially created for the performance of such duty, and better adapted to the increasing multiplicity and complexity of the needs of advancing society.

He was a crown-officer, a sort of ministerial deputy of the crown. To deny his worth and usefulness in his day and generation were to ignore history, and to be forgetful of the laws of our own growth. For a period when a revenue officer, the head of a bureau of standard weights and measures, a conservator of the peace, prosecutor of crimes, and sheriff's lieutenant could all be combined in one person, he sufficed. As such indeed he was an official entrusted with large discretion and great powers; and his office was a dignity and an honor, which no one would disgrace by receiving pay for it, and which none but lawful and discreet knights could hold.

But long since these functions, one by one, have grown too important in themselves, and too unwieldy, to be united with others; one by one they slipped from the hands of the coroner until but two were left him: first, the inquiring into the cause and manner of supposed deaths by violence, and, second, in certain contingencies the assumption of the office of sheriff.

These he continued to administer for some hundreds of years. But the actual work of these even was, ages ago, transferred to other hands. So far as any result flowed from it, the first steps of an investigation of a supposed crime have for a long period been performed by courts, and sheriffs have long had their regular deputies. The work of actual value, therefore, and that to which any weight attached, had all passed into other hands. Though the coroner continued to go through with certain formalities and proceedings, they were, and where they still exist are, wholly without meaning or value. Not the slightest attention is paid to his work, and not the least consequences attach to its results. So far as such work is of importance it is done over again by other offices and officers.

Useless it had long been, then; and had it been likewise harmless it might have gone on in peaceful imbecility for other hundreds of years. But bad and dishonorable men gradually got into the anciently honored office; corruption and abuses flourished in it openly. On the healthful symmetry of legal systems designed for beneficent ends this was an excrescence, and became a festering sore. It brought reproach and contempt on important portions of the administration of the law, and distrust and ridicule upon solemn trusts, until at last further forbearance would have been criminal.

Turning afresh to the source, and looking purely at the actual wants of the case, the State of Massachusetts, last year, abolished this worn-out office; and this it did in order that right conditions might again hold sway, and that an orderly system might take its place. The latter is now a logical part of the administration of the criminal law.

When now I say to you, "The coroner is dead, long live the medical examiner," it is not to convey to your minds any implication such as inhered in the proclamation, "The king is dead, long live the king." That was a tribute to the fiction of continuity in the head of the government. It is not my intention to convey to your minds any implication of successorship.

True, the coroner is dead, but you are not his successors. He has no successor. The line is extinct, and the race a memory. You are a *substitute* for him.

The coroner united within himself the duties of medical examiner and judge, and it was in this incompatibility of functions that the danger of the old system in our time lay. If now it be difficult, in the vastness of modern research, to be familiar and skilled in all branches of your profession, if it be more than mortal man can compass to know all the science of the law, how then can it be possible that one man should be versed in both, and so well versed as to be expert witness in one, and judge in the other?

You know, too, that the qualities of mind called into exercise in the practice of the two professions are not only different and distinct, but indeed diametrically opposed to each other. "Science is armed with a microscope, justice is blind;" the scientific investigator himself seeks his facts, and testifies to them. A judge never comes in personal contact with facts, but receives them from others, and holds the balance between them. Who can undertake to do both, — to be interested in the one and remain impartial in the other?

It was to get rid of this ill-assorted marriage that the new inquest law of Massachusetts abolished the office as theretofore existing, and, distributing its functions in strict accordance with the requirement of the duties to be performed, created the medical examiner for the performance of one duty, and transferred the other duty to the judges of the courts, leaving to each only that which is properly his function; the medical work exclusively to the medical examiner, and the legal work exclusively to the judges. There is here no community or confusion of duties; the line is sharp and clear.

(*To be concluded.*)

FLOATING SPLEEN.[1]

BY FREDERICK C. SHATTUCK, M. D.

THE line of treatment to be adopted in any particular case varies mainly with the recency of the dislocation and the degree of inconvenience to which it subjects the patient. I will consider the question of treatment from four points of view: according as it may seem desirable to do nothing; to attempt permanent reduction of the dislocation; to aim at alleviation or possible cure by reducing the size; or, lastly, to excise the organ.

The let-alone policy is that which has hitherto been followed in most cases, possibly partly from the impression — in which I shared until I had gone into the question — that the lesion is one of little or no gravity, but mainly from the difficulty of being sure of doing less harm than good. In view, however, of the fact that the lesion involves possibilities of the greatest danger, I should in another case make more of a point of attempting cautiously to diminish the size of the organ, if enlarged, and to retain it in place as far as possible.

Piorry was the first to attempt to keep a dislocated spleen in place by means of a bandage, but with what success I have been unable to ascertain. In Pirotais's case the woman was unable to rise from her bed until a bandage was applied; from this she obtained great and prompt relief, but whether the organ was kept permanently in place is not stated. In the case of sudden dislocation mentioned by Kilpatrick, the woman was put to bed, the foot of the bed raised, the spleen pushed back into place and retained there by bandages. After several days the bandages were removed and the patient felt no subsequent inconvenience. We are left to infer that the reduction was permanent, but that fact is not directly stated. It is only in acute cases like these that there is much hope of effecting permanent reduction, and the question naturally arises as to its mechanism in case it is effected. If the ligaments be ruptured or materially elongated, the possibility of their repair or restoration to the normal length would seem in the highest degree remote; and it appears to me more rational to seek for the cause in the occurrence of adhesive perisplenitis, which might perhaps be further promoted by cauterization over the organ. Whether a bandage or appliance can be contrived which will keep the organ in place and admit of being worn for a prolonged period, without at the same time exercising injurious pressure on other parts, remains to be seen.

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[1] Concluded from page 241.

Enlargement plays so important a part in the production and intensification of dislocation as to justify us in attempting to reduce the size of the organ. From the earliest times the spleen, especially when enlarged, has been regarded as an impediment to running. Democritus, Erasistratus, and Rufus of Ephesus all regarded it as a useless appendage, nay, as positively injurious.[1] Plinius Secundus says, "This member hath a property by itself sometimes, to hinder a man's running: whereupon professed runners in the race that be troubled with the splene have a desire to burn and waste it with a hot iron. And no marvel, for why? they say that the splene may be taken out of the bodie by way of incision and yet the creature live neverthelesse: but if it be man or woman that be thus cut for the splene, hee or shee loseth their laughing by the means. For sure it is that intemperate laughers have alwaies great splenes."[2] He also gives minute directions for preparing and taking a decoction of a plant called horsetail, and states that a three days' treatment suffices to "waste the splene of footmen and lackies."[3] Celsus[4] recommends highly drinking after meat the water in which a smith has often extinguished hot iron, "a remedy which very powerfully contracts the spleen." Its use was suggested by the observation that animals bred in the houses of smiths have very small spleens.

Various methods of cauterizing the splenic region, with the idea of diminishing the size of the organ, are described by the ancients. In the time of Hippocrates the hot iron was thus used, as also a kind of dried mushroom, eight or ten of which were placed over the spleen and set afire. Paulus Ægineta[5] teaches a method of cauterizing in six places at once, with a three-toothed cautery. In the Middle Ages, also, we find cauterization practiced on running footmen. Maebius,[6] who died in 1664, saw a runner of Count Tilly with a deep cicatrix in his splenic region, who attributed his great speed and endurance to an operation done on him by the physician of the count. The doctor put him to sleep by a potion, made an incision over the spleen and applied the hot iron. The runner also stated that the same operation had been done on five others, but one of whom had died in consequence. Whether the cauterization was ever applied to the spleen itself must remain un-decided, for the present at all events; but it does not seem likely that it was. The practice is spoken of almost exclusively in connection with athletes and running footmen, presumably a very healthy class of men, and was rather a matter of training than of medical treatment.

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[1] Burette.

[2] Hist. Nat., lib. xi. 37–80, old translation.

[3] Lib. xxvi. 13, 83.

[4] De Medicina, lib. iv., cap. ix.

[5] Sydenham Soc. Trans., book vi., c. 48.

[6] Burette.

To hasten to modern times: if the enlargement is of somewhat recent standing and due to malaria, quinine and change of climate may be serviceable. Cutler [1] and Bradford have known the enormous spleen of a leucocythæmic patient to undergo marked decrease in size under the prolonged administration of increasing doses of Fowler's solution. Some hopes of good results would seem to be held out by parenchymatous injections of ergotin or other substances, or by electro-puncture, but further facts are needed to establish the real value of these procedures. Küchenmeister suggests that when the absence of adhesions permits, taking a hint from nature, artificial rotation may be attempted.

The same writer also urges strongly excision of the floating spleen, if it be a serious inconvenience to the patient and other therapeutic measures have failed. Simon, Magdelain, and others have written monographs on this operation. Simmons [2] briefly mentions fourteen other cases in connection with a case of his own; and a valuable collection of cases is tabulated in the Medical and Surgical History of the War. Martin's [3] recent case of successful excision of a floating spleen antiseptically, and some facts as to extirpation of the spleens of runners in ancient and modern times, facts which no modern writer on splenotomy has mentioned, as far as I know, are my excuse for going into this question in some detail.

Several writers of antiquity state that the spleen was sometimes actually excised from runners to give them greater speed; and Burette,[4] whose careful study of the whole subject cannot be too highly commended, says that although he can find no special instance of the operation, he believes that it was done in rare cases. There is a popular idea that splenotomy was practiced on the running footmen of the Middle Ages, and Cabrolius [5] states positively that it was done; but in Zedler's [6] remarkable encyclopædia, published early in the eighteenth century, it is, on the other hand, stated expressly that it was *not* done. Cabrolius wrote early in the seventeenth century, and was a medical man; whether the writer of the article in Zedler, from which I have quoted, was a medical man or not I cannot say, but credulity and the unscientific mind belong to humanity, and are confined to no one profession or calling. Bartholomus says that the Turks, if their old chroniclers are to be believed, had a special and secret means of removing the spleen of runners; from lay sources we hear of splenotomy being practiced on the Indian runners of Texas,[1] and on the syces of Hindostan.[2] Now, though no one of these indications alone is worth much, when taken all together I think that some value must be attached to them, especially when we bear in mind the well-known impunity with which splenotomy is done on animals, and the uniformly favorable results which have followed the removal of larger or smaller portions of the organ in the human subject in cases of prolapse through a wound or injury of the left side. Sixteen of these cases — and the list is not claimed to be complete — are tabulated by Otis,[3] in every one of which perfect recovery took place. So much for removal of the *healthy* spleen. A floating spleen is almost always, however, an enlarged spleen, and an enlarged spleen again is almost always an indication of a cachectic state of the system, which would probably tend to diminish the chances of recovery from any serious operation. What do the statistics of splenotomy for disease teach us? To the fifteen cases collected by Simmons I will add five,[4] making twenty in all. Six of these were successful, fourteen fatal; a mortality of seventy per cent.

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[1] Am. Jour. Med. Sciences, January, 1878.

[2] Pacific Medical and Surgical Journal, December, 1877.

[3] British Medical Journal, February 9, 1878.

[4] Mémoire sur la Course des Anciens. Acad. Roy. des Inscriptions et Belles Lettres, 1713.

[5] Ontleeding des Menschlycken Lichnaims.

[6] Universal Lexikon, article Læuffer.

Urbinato's case I have, unfortunately, not been able to consult in the original; as reported in the *British Medical Journal* it is said that the spleen was enlarged and floating, but the symptoms are not given, nor is it stated definitely why the operation was undertaken. I must hence, provisionally, give Martin the credit of having been the first to remove the spleen simply for dislocation. His patient suffered such inconvenience that she cheerfully accepted the risks, and the organ, which was but slightly larger and heavier than usual, was removed. She made a good and rapid recovery, and four months after the operation was perfectly well and free from discomfort.

Splenotomy is not an operation to be done lightly, but I think that I have shown some reasons for hoping that better results may be looked for in the future. Malassez and others have given us the means of obtaining a more accurate knowledge of the condition of the blood than lay within our power until very recently, thus enabling us to pick our cases more carefully; and the antiseptic method promises to rank as second only to the discovery of anæsthesia in enlarging the domain of surgery.

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[1] Beddoe. Times and Gazette, ii., 1867, page 608.

[2] I am informed by old residents of India that they have often heard of cutting out the spleen of these runners to spare them the stitch in the side.

[3] Medical and Surgical History of the War.

[4] For the cases of Ferrerius and Dorsey, vide Medical and Surgical History of the War. For the case of Urbinato, vide British Medical Journal, October 4, 1873. For Martin's, vide same journal, loc. cit. For the case of Fuchs, vide Prager Vierteljahrschrift, 1878, Band ii., page 46.

RECENT PROGRESS IN PUBLIC HYGIENE.

BY F. W. DRAPER, M. D.

Sanitary "*Normas.*" — At the twenty-first annual congress of the British Social Science Association, held in Aberdeen, September 19, 1877, Mr. Edwin Chadwick, C. B., read an address before the health section, in which he pointed out the present position of sanitary science and the advances which it has made since, in 1842, he took an active part in awakening interest in public hygiene in England. From his own experience as a government official, and from the published records of various institutions, he gathered the satisfactory assurance that practical sanitation was not a delusion, but was capable of tangible and beneficent results. The saving in human life attained as the fruit of applying intelligently the recognized principles of hygiene in infant asylums, in jails, and in the army and navy indicated, in his belief, what is possible for the entire race, and pointed to the "normas" of sanitation for the people at large.

The following is his summary of conclusions, as deduced from experience and as showing what is attainable : —

"(1.) That we have gained the power of reducing the sickness and death-rates in most old cities by at least one third ; or, as a rule, to 16 or 17 in 1000.

"(2.) That in new districts, on sites apart from old urban sites, we may, with a complete arterial system of water-supply and surface cleansing, — including measures for the prevention of overcrowding, — insure a reduction of death-rates to less than one half, or to a mean rate of 10 in 1000, and the sickness in like proportion.

"(3.) That in well-provided and well-regulated institutions for children from three to fifteen years of age we may secure them an immunity from the common children's epidemics and reduce the death-rates to the mean of about 3 in 1000, or to less than two thirds of the death-rates prevalent among children of those ages in the general population.

"(4.) That in prisons and places under effective sanitary control, the death-rates (from disease) have been reduced among persons from the school ages and upward to about 3 in 1000, or to one third of the death-rates prevalent among the population of the same ages.

"(5.) That to the persons in such institutions an immunity may be given as against all ordinary epidemics, typhus and the eruptive diseases, diarrhœa and dysentery, which ravage the general population.

"(6.) That among the general population a reduction, by full one half, of the diseases of the respiratory organs may be effected by general public sanitation.

"(7.) That complete habits of skin cleanliness, alone and apart from general structural arrangements or alterations of habits in other respects, constitute a factor of about one third the power of 'sanitation.'

"(8.) That by a proper selection and due sanitation of sites in tropical climates and the sanitary care of the population, the birth-rates may be made to exceed the death-rates.

"(9.) That by the increased health and strength imparted by improved physical training under sanitary conditions, on the half-school-time principle, in the infantile and juvenile stages, the efficiency of three, for productive occupations, may be imparted to every two of the most depressed classes of the population.

"(10.) That the death-rates from disease in the mercantile marine may, by the exercise of the like powers of sanitation that are exercised in the Royal Navy, be reduced by two thirds, or to the general death-rate now prevalent in the Royal Navy, about 6 in 1000.

"(11.) That, as indicated by existing normals, the greatly reduced death-rates in the army at home and abroad admit of important further reductions by a more complete application of tried and approved means of sanitation."

The Dissemination of Disease by Pawnbrokers. — An article in the *Sanitary Record* for November 16, 1877, calls attention to the danger of infection which exists in the articles of clothing exposed in pawnbrokers' shops, especially in such establishments as are located in poor neighborhoods. Five cases are cited in which small-pox and scarlet fever were conveyed from pawnbrokers' shops in clothing which had become infected by lying in contact with other clothing from dwellings where, upon investigation, it was found that the diseases had existed. The evidence was direct and conclusive. The writer remarks that these instances go far to explain the persistency of an infectious disease in a poverty-stricken district, and the occasional outbreak of an epidemic in a locality where it has been hitherto absent, and between which and infected places there is apparently no direct connection. Pawnshops are often "Exchanges of Disease," and the poorer the people and the more disease prevails among them, the livelier is the communication between infected and uninfected clothing and bedding.

A similar danger of infection pertains to the barter in second-hand clothing extensively carried on in cities. Persons not particular in such matters are ready to dispose of old clothes from infected premises, no questions are asked by the insinuating bearer of cheap glass and porcelain, and the apparel finds a new owner through the intervention of a cheap shop and becomes the vehicle of contagious disease to other fields.

Disinfection by Hot Air. — Dr. E. Vallin discusses this subject quite exhaustively in a paper recently read by him before the Society of Public Medicine in Paris.[1] After mentioning that the usual method of managing infected bed-clothing after the death or convalescence of the small-pox patient is to expose the articles to the air a few hours, or to beat them as carpets are beaten, thus disseminating clouds of dust composed mainly of variolous pus-globules, the author proceeds to elaborate his subject under the following heads: —

(1.) At what temperature do textile fabrics begin to undergo alterations? The writer's investigations show that woollen tissues alter more rapidly than those of cotton. At 230° F. white wool shows a reddish tint, and at 302° F. it begins to lose its cohesiveness. Cotton and cloth fabrics require a continued temperature of 257° F. to change their color.

(2.) What temperature is necessary to destroy the activity of morbid principles? Upon this point the author does not present any original investigations, but quotes with approval the results of others. Thus, vaccine lymph is devitalized by a temperature of 140° F. (Henry); the liquid virus of charbon (*bacillus anthracis*) loses its activity at 131° F. (Davaine); while the amorphous virus of septicæmia has hitherto resisted the action of heat, M. Davaine having submitted septic fluid to prolonged ebullition without destroying its virulence.

(3.) The best arrangement for an apparatus to disinfect by heat should give certitude that the temperature will not exceed 230° F. or sink below 212°. If fabrics exposed to the heat cannot be secured from damage therefrom, the repugnance to the use of the apparatus by persons responsible for the articles will be invincible and justifiable. The temperature should be equal in every part of the apparatus, and the circulation and renewal of the hot air in the chamber should be active, not only to maintain the desired equality of temperature, but also to facilitate the more rapid penetration of the heat into the interior of voluminous articles subjected to it. Disinfection, in the writer's opinion, would be more effectively secured if the heated air were given a high degree of humidity, short of saturation, by means of a fine jet of steam let into the hot-air chambers, or by passing the heated air, before it enters the chamber, over tanks full of water. Moist air is the best conductor of heat, and thus it facilitates the penetration of the heat to the central parts of the infected articles; moreover, the observations of physiologists have shown that the inferior organisms, when they have been dried, resist the highest temperatures, and thus it is fair to presume that a certain degree of humidity in the heated air will promote its disinfectant power.

The Rochdale System of Treating Sewage. — In a paper read before the Society of Medical Officers of Health,[2] Dr. Mitchell Wilson, the medical health officer for Rochdale, described the method of treating excrement as practiced in his township. This method, now known among sanitarians as the Rochdale system, had its first application in this town in 1869, and has had a trial sufficiently long and thorough to give value to its results. The system has for its object the collection, at weekly or shorter intervals, of the excrement and dry refuse from households in two separate pails, the manufacture of the excrement into manure, and a thorough utilization of all the collected refuse. The work is done under the supervision of the town sanitary authorities. Certain modifications and improvements have been introduced from time to time, until at present the pail method is spoken of by its Rochdale patrons with enthusiastic admiration.

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[1] The Practitioner, March and April, 1878.

[2] The Sanitary Record, February 15, 1878.

The excreta pails (designed to receive excrement only, the house-slops being passed into sewers) are made from the half of a mineral-oil cask. Each pail, on its removal, is fitted with a lid so adjusted with a rubber ring or cushion around the edge, and made fast by a spring and links at the side, that all nuisance is prevented during transportation to the works. The wagons which carry the pails to the manure works are made so as to hold twenty-four of the receptacles, the doors of the vehicle being made nearly air-tight by india-rubber beading, against which they press when they are closed. The pails are collected and replaced once each week; in cases of pails receiving fever excrement the collection is more frequent, and thorough disinfection is practiced. Before being again used each pail, having been emptied, is carefully washed and receives a disinfection by means of a mixture containing ten parts each of commercial alum and chloride of calcium, one part of sugar, and one hundred parts of water.

At the manure works the excrement is evaporated by means of double steam cylinders, each containing a ton and a half. In four and a half hours ninety per cent. of the water in the pail-stuff is evaporated, and the product is a manure in a dry state.

The Rochdale system has been gradually introduced into the town, as a sweeping and compulsory alteration of all the old closets would have raised an undesirable amount of opposition. Privies of the old pattern can no longer be constructed, but all new houses must conform to the new system, and all additional privies on old property and all rebuilding of privies must be in accordance with the pail method. There are now seven thousand of these new privies in the town, the estimated population being seventy thousand. The cost of erecting a new closet is twenty per cent. less than the cost of erecting one on the old plan; and from the dryer condition of the walls and foundations a pail-closet will last longer than the privy of the old style. The appearance of cleanliness, comparing the average condition of both, is very much in favor of the pail closet. The collection of the excrement and the changing of the pails are in the great majority of cases done without the knowledge of the householder and without any offense to any one. Since the improved lids have been used on the pails there has been no complaint of nuisance by their transportation through the streets.

Dr. Wilson points out, as among the special fruits of the Rochdale experiment, a diminished death-rate in the borough since its introduction, and a comparatively small expense for sewage-treatment. The advantages over all other methods, from a sanitary point of view, he believes to be beyond question.

Sanitary Inspection. — A Sanitary Inspection Association has been formed in Edinburgh, whose purpose is the systematic and expert examination of dwelling houses and other occupied buildings in that city. Its plan of operations is set forth by Prof. Fleeming Jenkin, the consulting engineer of the association, in a paper read before the Medico-Chirurgical Society of Edinburgh. Membership in the association is made to depend simply on the payment of one guinea annually. Out of the funds thus provided a consulting enginer and a staff of executive inspecting engineers will be paid. Each member of the society will, in the course of the year, receive a letter from the secretary asking if it will be convenient for him to receive the inspecting engineer on a day appointed. The day being designated, the engineer will make as thorough an inspection as can be made without entailing extra expense on the member; he will then draw up a preliminary report stating whether a complete inspection can be made without cost to the member, and, if not, at what outlay the necessary alterations in fittings can in this particular instance be accomplished. If the member decides that he does not wish to incur any expense he will receive the preliminary report, which will give him all the information concerning the sanitary arrangements of his house which can be procured by the inspection of the engineer aided by one workman. If a complete inspection is wished, the necessary apparatus will be applied. The house drain will have a short length opened to the air, in an area or other properly protected place, this opening being guarded by ordinary water-traps at either side, so that the portion of the drain actually exposed to the air does not exceed that of a common water-pail. With this apparatus in place, with a ventilating grid over it, the following series of experiments will be tried: —

(1.) Is the house drained? This will be tested by fastening up the water-closet handles for a few minutes and watching the flow past the grid at the external trap, whether or not it is impeded.

(2.) Is there any leakage from the house-drain under the basement floor of the house? This will be tested by temporarily plugging up the drain at the trap and filling the pipe or drain in the basement with water. If the water remains at a constant level the drain is clearly water-tight; if not, the amount of the leakage can be measured by the rate at which the surface falls.

(3.) Are the pipes of the house air-tight, and are all openings trapped? This will be ascertained by making fumes of paraffine inside a closed vessel over the open grid at the trap and driving these fumes into the house-system by a fan, but not so as to cause any internal pressure. When it has been determined that these fumes have reached the highest point in the pipes, each room in the house will be inspected, and any escape of paraffine into any room will be detected by its smell, and the place of the escape will also be ascertained easily. [A similar test by means of the oil of peppermint is in constant use by the sanitary inspectors of this city. — REPORTER.]

(4.) Are the traps and pipes properly ventilated? This will be ascertained by pumping air into the pipes at the bottom. If no paraffine fumes are then forced into the house it is clear that at least one part of the ventilating system is in order. In addition to this experiment, the test of passing smoke through the ventilating openings will be made wherever this way seems desirable.

(5.) Is the drinking-water unpolluted? The cisterns will be examined, the position of the overflow pipes noted, and the action of the water-closets inspected.

Shortly after these experiments, the householder will receive a report giving the results, stating also whether any alteration in the house-fittings is desirable and at what approximate cost. If changes are made, the work done will be inspected. All reports will be made according to principles laid down by the consulting engineer, and all doubtful cases will be submitted to him. In proper instances the attention of municipal sanitary authorities will be called to actual nuisances found, but the fundamental object of the association is to perform advisory functions in hygienic matters, to instruct the public, to foster periodical, systematic inspection of household sanitary appliances, and to favor the introduction of new and approved inventions. It will apply the principle that in any case to know definitely what is wrong is to go a long way toward providing a remedy.

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PROCEEDINGS OF THE CONNECTICUT RIVER VALLEY MEDICAL ASSOCIATION.

A. P. RICHARDSON, M. D., CORRESPONDING SECRETARY.

THE annual meeting was held at Bellows Falls, Vt., May 1st. Dr. N. G. Brooks, the president, in the chair. Twenty-five members were present.

Fracture of Skull. — Dr. Webster presented a case of fracture of the frontal bone caused by the accidental falling of the log-carriage of a saw-mill. A piece of bone two inches square, including the superior portion of the left orbit and involving the nasal bones, being detached, was removed; other parts were elevated. There was a free discharge from the wound and a good recovery. The patient was present before the society, and appeared in good health. The left eye was destroyed by the accident, and the nasal duct leading from the right eye was obstructed by an irregularity in the osseous canal through which the duct passes.

Dr. D. Campbell said that a free and complete discharge from such fractures afforded the best condition for recovery.

Diabetes in a Boy Twenty-Six Months Old. — Dr. Brooks related the case. Urine loaded with sugar, twenty-four grains to the ounce; albumen also present; thirty to forty ounces of urine daily. Dr. Brooks remarked upon the rarity of the malady in so young subjects.

Quinine as a Febrifuge. — Dr. Gray gives twenty-five grains of quinine at a time when the temperature is very high in typhoid fever and pneumonia. To a patient with a temperature above 106° F. he gave forty-five grains with marked decrease of heat and subsequent recovery. Others believed in its antipyretic power in large doses, but gave it less heroically.

Lead-Poisoning. — Dr. Campbell reported a case of lead-poisoning resulting from drinking cider drawn from a barrel through lead pipe. He queried if the introduction of lead into the system through water conveyed in lead pipes and in various other ways might not explain numerous neuralgic, spinal, and nameless affections. Might it not make bones more brittle? He thought the attention of physicians should be more directed to this subject.

July 3d. Dr. Brooks, the president, in the chair. Fifteen members present.

Rubber Bandage. — Dr. Jarvis showed a specimen, and reported cases of eczema and chronic ulcer of the leg, with varicose veins, treated with rubber bandage, with excellent results.

Perforating Ulcer of Stomach. — Dr. Sawyer read an interesting paper upon this subject. He thinks this form of ulcer more common than is usually supposed. The symptoms are liable to be so equivocal or entirely absent that it is not easily detected, and may be entirely overlooked, or blended with functional disturbances or other organic derangements. It is generally thought that it does not differ from the common ulcer found on other portions of the mucous membrane, or other parts of the body. Its importance depends very much upon the parts involved or functions disturbed. An ulcer upon the leg may give little inconvenience. In the stomach it may interfere with digestion, open blood-vessels, or even puncture through its walls. Its manner of development has not been very satisfactorily explained. It probably depends upon a condition of the blood-vessels which interferes with nutrition of the parts, destroying the mucous membrane, and giving the appearance of being punctured with a sharp instrument. If of long standing its margin becomes indurated and rounded, as is seen in old ulcers of the leg. Having destroyed the mucous membrane it will often remain stationary, its base resting upon the tissues below, giving little or no inconvenience, healing and leaving only a cicatrix to mark its previous existence. Or it may extend into the deeper textures, open blood-vessels, perforate the walls of the stomach into the peritoneal or other cavities, and destroy life. It is usually developed in adult life, and in constitutions broken down from overwork, or by depraved habits. Scrofula develops a condition favorable to ulcer. This is about all that is known of its cause. Any one of its symptoms may spring from other causes, as painful digestion and vomiting from dyspepsia, tenderness from chronic gastritis; hæmatemesis may be vicarious, or may be due to obstruction in the circulation, or to cancer, from which also may arise pain and tenderness. This lesion cannot be diagnosticated by any one symptom, nor always by all combined. It is sometimes impossible to distinguish it from cancerous ulcer by physical exploration or local symptoms, when the constitutional cachexia will betray the nature of the disease. In simple ulcer the constitution is affected mainly by the disturbance of the functions of the stomach alone, and will often be improved by adopting a simple diet, the patient gaining flesh and strength; while in cancer the depression and emaciation are continual, depending upon a condition not under our control. In one instance Dr. Sawyer had relieved the patient of pain by directing him to assume an erect position after meals, as suggested by Dr. Osborne and others, that the contents of the stomach might find a level below the raw surface of the ulcer. That this disease is susceptible of cure we have abundant evidence from cicatrices found after death from other causes. Perhaps the best treatment is that adopted by the celebrated Becklard in his own case. He declared himself cured of ulcer of the stomach by spoon-food, which was proved true by a cicatrix found after death from another disease. Milk given with lime-water, in such quantities as not to distend the stomach, affords to the patient comfort and improvement which may go on to recovery.

The reader had made two post-mortem examinations. The first was a lady thirty years of age, who had had good health till twenty-four hours before death, when she was taken suddenly with agonizing pain diffused throughout the abdomen, with constant desire to void urine. A perforation was found through the lesser curvature of the stomach. The second case was that of a man sixty-eight years old, who had suffered fifteen years with symptoms of ulcer of the stomach, vomiting blood, pain after meals, and dark, coffee-like evacuations. Finally, he died of peritonitis. Perforation was found in the same place and of about the same size as in the former case, the margin of the ulcer being rounded and indurated. There was adhesion of the transverse colon to the stomach, and the mucous membrane was injected and easily torn in considerable of its extent. The habits of the two patients were unlike, which may account for the contrast in suffering. The first lived simply, and was regular in all her habits, while the second lived luxuriously, drank spirits, and denied himself nothing.

Fayal as a Resort for Invalids. — Dr. Blake read a paper giving an interesting account of his late visit to Fayal, the topography of the Azores, and their desirableness as a resort for invalids. He had occasion to see professionally several persons at Flores and Fayal, and invariably the young and middle-aged were suffering more or less from bronchial affections. He is convinced that the Azores, on account of the dampness of the houses in-doors and the extreme humidity of the atmosphere out-doors, are not favorable for invalids suffering from pulmonary complaints, diseases of the throat, or rheumatism. Phthisis is endemic in the same degree as in other parts of the world.

Ante-Partum Hæmorrhage; Death. — Dr. Nichols reported the case of a woman eight months advanced in pregnancy who did a large washing, assisted in painting a room during the day, and retired early in the evening. At twelve o'clock at night she got up to fasten the door after her husband, who went to work at that hour. On again retiring she flowed most profusely, and immediately sent for Dr. Nichols, who arrived within an hour. The profuse hæmorrhage had ceased, there were no labor pains, but the os was fully dilated, the patient cold and nearly pulseless. Stimulants were given and external heat applied. Large doses of ergot were administered, which produced but slight contraction of the uterus. Hæmorrhage ensuing, the child was turned and delivered with but little difficulty. The uterus expelled the placenta, and hæmorrhage ceased. The patient did not rally, and died within an hour after delivery. In turning, the placenta was found two thirds detached from the fundus of the uterus, which accounted for the flooding.

THE ACTION OF MEDICINES.[1]

THIS book bears the mark of much care and study, and both by illustration and explanation will assist the student to use those instruments of precision which at the present time seem indispensable to the physiological laboratory. Necessarily the writer has devoted much of his space to giving details of the methods of experimentation. We should scarcely expect to find in a book of this character that the action of drugs would be defined in a practical manner, and probably the practitioner of medicine would be more confused than helped by a study of Dr. Ott's book. If, however, the toxicologist or experimentalist desires to understand the use of apparatus of precision in the graphical study of animal functions, he will find aid in this treatise more readily than in any other English work. The plates give material assistance in understanding the apparatus. Without disparagement to Dr. Ott's original work we notice that the explanation of the physiological action of drugs is in a large measure derived from researches of other experimenters, with which this author seems very familiar. We are somewhat disappointed that he has not summarized his deductions from physiological observations in a manner which would be more useful than the present detailed description of the methods of experiment. In its present form the book is quite valuable to the student who desires to carry out a minute study of the physiological action of drugs. Some of the original work lacks thoroughness of research; we notice this defect in the mention of a drug lately introduced to the profession. On page 142 one single dose of erythroxylon coca ("*some coca*") was chewed by the author, who describes in minute and technical language its effect. During the following eight hours he chewed about ninety grammes more, and observed the mental and physical consequences. We should obtain a very crude notion of the medicinal action of this drug if our information were to be derived only from this study. We think our author is scarcely warranted by his own experience in stating, as a general deduction, "In man it increases the pulse and temperature. It decreases the urea, and increased my weight." This conclusion could be arrived at only after the prolonged use of moderate doses, and their action on the temperature and circulation, as well as the amount of urea excreted, were compared very carefully with results obtained during a period when the drug had not been taken. As a general criticism on this book we should say that the author was a good deal confused by a mass of detailed work, which he has not put together in a way that helps the reader to understand the true action of any given drug. The style in which it is written rather aggravates this confusion. We are at a loss to understand (page 99) what "pharmacologists" have to do with the action of the heart; and on page 112 we notice the sentence, "and thus establishing a greater nutritional interchange of products." Less technical language and shorter sentences would have made the book more intelligible.

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[1] *The Action of Medicines.* By ISAAC OTT, A. M., M. D., etc. Published by Lindsay and Blakiston. 1878.

TURNBULL ON ANÆSTHESIA.[1]

This work was originally written by the author as a report for a medical society, and was subsequently extended to its present form to supply a want for a convenient book of reference on the administration of the various anæsthetics. It contains many practical and useful suggestions as to the class of patients with whom it is unsafe to employ the ordinary anæsthetics; it also gives the method of administration, care necessary while under the effects of the drug and afterwards, and a clear account of the more common reagents used for anæsthesia and the dangers of each. There are also quite full particulars of some medico-legal cases, and a series of investigations as to the effect of different anæsthetic agents on the blood-corpuscles. The book is well written, and the author, while consulting everything of importance and giving due credit to the work of others, has at the same time furnished a large amount of original material which adds greatly to the value of the work. The book certainly deserves well of the profession.

A TREATISE ON GONORRHŒA AND SYPHILIS.[2]

A sixth edition and a new date on the title-page have failed to restore to this venerable work its lost youth. The demand for comprehensive treatises on genito-urinary diseases is for the present so fully satisfied that additional contributions to the bulk of existing literature on this subject seem uncalled for. We are of the opinion that the valuable work of Van Buren and Keyes, now generally recognized as a standard authority upon genito-urinary diseases and syphilis, has rendered similar compilations superfluous for some years to come.

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[1] *The Advantages and Accidents of Artificial Anæsthesia.* By Laurence Turnbull, M. D. Philadelphia: Lindsay & Blakiston. 1878. Pp. 208.

[2] *A Treatise on Gonorrhœa and Syphilis.* By Silas Durkee, M. D. Philadelphia: Lindsay and Blakiston. 1877. Sixth edition, with eight colored illustrations. Pp. 467.

A SEQUEL TO THE FISHER CASE.

Two years ago a young lady of unblemished reputation, while undergoing a surgical operation for the relief of a dysmenorrhœa of long standing, suddenly died. The outrageous action of A. W. K. Newton, who at that time held the office of coroner, and his manner of conducting the inquest, is still fresh in the minds of the Boston public. Nor has the remarkable medical testimony given on that occasion by Drs. J. B. Treadwell and Horace Chase been forgotten. The readiness with which they were willing, on insufficient evidence, to swear away her innocence (which could not even rightfully be questioned at that inquest) cannot be considered otherwise than a most unfortunate example of the uncertain value of expert testimony. At the autopsy a true *corpus luteum* was found in one of the ovaries, and at the inquest Dr. Treadwell stated that the presence of a true *corpus luteum* in the ovary was a sure sign of pregnancy. We took occasion at that time to protest against such testimony. It was well known, at least among experts on this subject, that the question was still *sub judice*, and that observers whose opinions were entitled to weight had maintained the opposite side.

By request we publish the following letter received by the father of the late Miss Fisher: —

338 Tremont St., Boston, Mass., *August* 3, 1878.

Dear Sir, — In consequence of scientific information lately published I now think that I was wrong in my opinion expressed before the coroner's jury in regard to the recent existence of pregnancy in the case of the late Clara T. Fisher.

Further, I am now convinced that I misapprehended certain questions asked me by Dr. Dalton; and as he has already stated in print that he based his decision upon my answers rather than upon his observation, I think that no weight should be attached to his opinion in the matter.

I wish to express my sincere regret for the grief that I have caused you and the other relatives and friends of your daughter by an opinion which I now believe to be an erroneous one.

Very respectfully, your obedient servant, J. B. Treadwell.

According to this letter Dr. Treadwell has evidently been convinced, owing to further study of the subject, that the presence of the true *corpus luteum* is not a sure sign of pregnancy, and that Miss Fisher was not pregnant a short time before her death. How, then, are we to explain the following extract from a letter written at the time by Dr. Treadwell to Dr. David W. Cheever: "The presence of the *corpus luteum* was not relied upon as the only or the main sign that pregnancy had existed. The presence of the *villi* of the *chorion* was alone sufficient to settle that point." We cannot recall to mind any "scientific information lately published" in reference to the presence of the *villi* of the *chorion* as a *doubtful* sign of pregnancy.

The publication of this last letter of Dr. Treadwell cannot, of course, in any way strengthen the public in their belief in the innocence of the late Clara T. Fisher. It will be looked upon rather as a tardy concession to a well-grounded and universal opinion, and can afford but doubtful consolation to those who were so cruelly and unnecessarily wronged. This whole history is but another illustration of the importance of exercising the greatest care in the selection of expert witnesses.

THE CASE OF CAPTAIN HOLM.

A HEARING was held last week on a writ of *habeas corpus* in the supreme court, Judge Morton on the bench, and Captain Holm, whose case we referred to in our last number, was discharged from the McLean Asylum. Evidence was presented showing a great change of character in Captain Holm for several years past, in consequence of which his feeling and conduct towards his wife and son, and all who sympathized with them, had become decidedly hostile. His conduct in his marital relations four years ago was such as often results from commencing paralytic dementia, and would, if it could be made public, destroy all sympathy for Captain Holm if he is a sane man. Six physicians were of opinion that he is insane, in the form of paralytic dementia, namely, Dr. Sullivan of Malden, Drs. Walker and Rowe of the Boston Lunatic Hospital, Drs. Jelly and Page of the McLean Asylum, and Dr. Fisher of Boston. The testimony also showed that to a considerable degree he was dependent on others for the proper care of his person; that he lost his way frequently, and was liable to be run over or robbed, and that he had lost his sense of propriety in certain respects. It was shown that he was about to leave the country with much of his personal property, with the avowed intention of leaving his wife destitute, and of injuring his son in his business. His family put him in the McLean Asylum only after getting the advice of able counsel and physicians, and of his life-long employers and business friends, Joseph S. Ropes and Charles H. Trask. The physicians were all of the opinion that, although not dangerous to the public nor to himself in any great degree, he would be better off at the McLean Asylum, where he admitted himself to be comfortable and well cared for.

Testimony for the petition was not presented, and the case was argued on the above evidence. Judge Morton, while admitting the probability of the above-stated facts, admitting also that Captain Holm's family were in an embarrassing position, and were actuated by no bad motives, ordered his discharge, on the ground that by the testimony of Drs. Jelly and Fisher he was not dangerous to the public. He said his admission to the McLean Asylum was without judicial warrant, and was not justified even by the fact that he was about to leave the country.

The force of this decision seems to be that no private patient in any of our asylums is under legal restraint, although the hospital may be authorized by law to receive such patients. It has been known to those most concerned that the treatment of a private patient in an insane hospital was a family matter, and that such restraint is exercised at the risk of judicial examination in all cases. It also appears from this decision that no considerations of personal welfare, or remedial treatment, or security of the property of an insane person, or the comfort or even safety of his family, are of sufficient weight under the law to warrant his detention. He must be *dangerous* to himself or the community. It seems to us that a general knowledge of the law in this respect will not only prove a safeguard against the attempt on the part of families to put improper persons into hospitals for the insane, but will diminish to some extent the usefulness of hospitals as curative institutions. Many cases will be allowed to go at large if their detention must be sought by judicial process before, or at the imminent risk of public interference after admission. In the case of Captain Holm the publicity acquired may prevent some of the evils and misfortunes which were dreaded by his family.

MEDICAL NOTES.

— The Medical Communications of the Massachusetts Medical Society for the current year have been issued. Besides the annual discourse and the prize essay, the pamphlet contains three other papers of great merit. The proceedings of the councillors and of the society are published, as usual, in the appendix, and on the last page of the cover are notices to Fellows, too often, we fear, overlooked by them. Announcement is made of the society's prize, and also of another prize of thirty dollars, which is offered by a Fellow "to any medical student of this State, or to any regular physician of less than two years' standing, for the best paper on the Physiological Action of some Drug of the Materia Medica as determined by Stated and Original Experiments." Essays designed for this prize should be sent to Dr. Robert Amory, Brookline, Mass.

— We are gratified by the appreciation of our reports on pathology shown by the London *Medical Record.* An acknowledgment of the sources from which the *Record* draws its material would add to our satisfaction.

— Dr. Apput (Virchow's *Archiv*, lxxi., 1878), by experimentation on frogs, found that, in cases of inflammation, the hypodermic injection of quinine stopped the emigration of the white blood corpuscles, hindered their attachment to the walls of the vessels, deepened their color, arrested the amæboid movement, and lessened the rate of the pulse and general circulation.

— The *Monthly Cincinnati Lancet and Observer* and the *Weekly Clinic* have fused under the title of *Cincinnati Lancet and Clinic*, to be issued weekly.

— Dr. Tholozau, the physician to the Shah of Persia, and correspondent of the French Academy of Sciences, reports that during an eleven years' residence in that country he has never seen but one or two isolated cases of scarlet fever or diphtheria, and that many of the oldest practitioners have never seen a case of either disease; neither is there any description of these diseases in any of the Arabian or Persian books now read in that country. In 1869, about the time that a similar epidemic visited Europe, scarlet fever made its appearance in the very centre of Persia, although it was impossible to discover any mode of communication with the interior; from this point it spread, in a general way, toward the frontiers. A large number of children succumbed both to scarlatina and to diphtheria.

— It is said that a dose of camphor will overcome sickness caused by tobacco.

— At a recent meeting of the Society of Physicians in Vienna, Schrötter reported a case in which the pulmonary percussion note was quite clear all over the chest, but in which loud bronchial respiration was very distinct. The case was obscure until an autopsy showed that the entire bronchial tree was partly bony, partly cartilaginous.

— Charcot has determined, in a precise manner, that magnets act upon hemi-anæsthesia of cerebral origin absolutely as metals and electric currents. Charcot exhibited to the Société de Biologie two patients, — one with left-sided, the other with right-sided hemi-anæsthesia. The action of a magnet removed the anæsthesia and transferred it to the sound side in the case of hysteric origin, but the metastasis did not occur in the hemi-anæsthesia of cerebral cause. "The different action," says the *Medical Examiner*, "furnishes a diagnostic sign of great importance."

— Dr. Bucknill, of London, pronounces the inebriate asylums of the United States a practical failure.

— The *Doctor* (London) quotes from a paper on ephelis by "Dr. James White, Havard, U. S."

— Iselin has been commissioned by the French government to execute a marble bust of Claude Bernard for the gallery at Versailles.

SHORT COMMUNICATIONS.

YELLOW FEVER.

Mr. Editor, — It is much to be regretted that during the presence and the frightful and fatal progress at the South and Southwest of a disease like that of yellow fever, any opinions should be announced by leading medical men, or any orders issued by professional authority, which may in any way increase the panic already existing in places which are in communication with infected districts, or the distress of those who are endeavoring to escape from them. Yet the orders emanating from the bureaux of the surgeons-general of the army and the navy are sure to do this. Dr. Woodworth says, "In some instances *it has been carried inland with the people fleeing from infected localities*." "*It is capable of being transported in the clothing or personal effects of passengers and sailors*." And although he admits that "yellow fever is not communicated from the sick to the well," he adds that the "sick and well are dangerous as possible carriers of the poison-germ or miasm." In the next sentence the same thing is reiterated in another phrasing of the same doctrine, namely: "All *well persons* whose effects have been disinfected may be considered harmless after six or seven days have elapsed from the time of leaving an infected district or vessel." Of course, nothing can be more true, and it is quite as true without either of the inconvenient conditions named. The surgeon-general of the army proposes to make the United States *mail service safe by disinfecting its mail bags*, etc. Even a medical secretary of the Mississippi State Board of Health asks the postmaster-general to "please stop all mail matters, except first-class, from all infected points in this State." "We regard this as important to our safety." To which the postmaster-general replies with military promptness the same day, and with the good sense of a "first-class" sanitarian, "It is not desirable to direct the exclusion of any class of matter from the mails because of the prevalence of yellow fever."

It is not necessary to go into the discussion of the general question of the *contagiousness* of yellow fever, for that has been long since conclusively settled by the highest and most competent authority, *contagion* in this connection being defined by the English Board of Health as "the power of communicating disease from the *person* of an individual laboring under it to that of another, whether by actual contact through the medium of linen, bedding, or any substance whatever; through the medium of the air, in a room in which an individual labors under the disease; the capability of being propagated by means of excretions or exhalations from the bodies of those affected; or, finally, by means of exhalations from the bodies of those who have died of it."[1]

The few persons who still remain as the advocates of contagion may be comprised under two classes: those who have not had sufficient opportunities of studying the disease, and those whose connection with lucrative offices in quarantine establishments may be expected to bias their opinions. Nor is there on record, to my knowledge, a single well-authenticated case of proven personal contagion, nor any supposed case of such, which cannot be better explained upon some other hypothesis.

The only mode in which the disease can be transmitted is by *infection*, and the laws which govern this transmission are as well settled as those which relate to those of contagion. I quote again from the Board of Health: "By *infection* is meant a principle which produces the disease, depending altogether upon *local* causes, and having no relation to emanations from persons laboring under the disease, or from the bodies of those who have died of it. Thus, a malaria spot, or a filthy locality, is a *focus of infection*."[2]

In the First Report on Quarantine I find the following remarks: "A foul ship," that is to say, a ship coming to a healthy from an infected port, "is not only a centre of disease to those on board, but a source of disease to her neighborhood. From a variety of evidence it appears indisputable that, while the foul state of a ship's hold is the frequent cause of malignant fever to her crew, *the air issuing from such a hold and the cargo taken from it are capable of producing disease in the neighborhood of the wharf where the unloading takes place, and of affecting persons who come on board from the shore.*"

So far, therefore, as a vessel after lying in dock at an infected port may bring to the healthy one a section, so to speak, of the soil, the dock mud, the bilge water, and the atmosphere of that port in her closed hold, she may, and often does, on her arrival, become a source and centre of danger and disease. "That she *can communicate the disease by the liberation of the poison on opening the hatches, and especially on breaking out the cargo and ballast,*" as Dr. Vaché expresses it, cannot be denied, and she should be dealt with accordingly.

The truth is that *no disease emanating from malaria is contagious*, and no person should be quarantined for yellow fever any more than for fever and ague. It is to be hoped, therefore, that the obsolete doctrines which would inflict the inconveniences, the distresses, and the dangers of quarantine upon the innocent victims of a non-contagious disease may no longer be the blind guides of those who have to deal with it. H. G. C.

A NOVELTY IN OBSTETRICS.

Mr. Editor, — Kaheli-Imilau, a native woman whose husband is an Englishman, gave birth to a child. As is usual with these women she had called no physician, and none was in attendance. Several hours had passed after the baby was born, but the placenta did not come away. Her husband grew alarmed, and wished to go for a doctor. The woman would not consent to it. At last, however, fearing she would die, he started out to find me. Unfortunately, I was away from my office, and he went home again, expecting to find his wife dead or in greater suffering. What he did find is best told in his own words: —

"Well, you see, no sooner was my back turned than off she starts one of the youngsters for old Nuhi." (Nuhi is a native "kahuna," or medicine-man.) "As soon as I opened the door the first thing that I see was Nuhi straddlin' over my wife, with both of his hands gripped round her neck, — she black in the face, with her two eyes startin' out of her 'ead and her tongue stickin' out of her mouth, and her legs and arms goin' every which way. They was both on the floor, and the kahuna had his hands full to keep his hold. I went for Nuhi, you 'd better believe. But just before I reached 'im, Kaheli gave a tremendous lunge, off went Nuhi, end over tip, and out flew that damned afterbirth, half-way acrost the room."

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[1] The Second Report on Quarantine, etc., page 157, G. B. H.

[2] Second Report, page 157.

When I saw the woman the next day, she was sitting quietly nursing her baby ; and when I asked her about the rather extraordinary performance of the day before, she laughingly confirmed her husband's statement. I found her, as is almost always the case with these native women within twenty-four hours after delivery, in full health and strength, and ready to do her ordinary household work. Such is the fact, despite the coördinate fact that neither in physique nor in their full health and strength are they the equals of our average women in America. G. T. Shipley, M. D.

Koloa, Kauai, Sandwich Islands, *July* 29, 1878.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. VII.

Office Surgeon-General U. S. M. H. S., Washington, *August* 24, 1878.

New Orleans. — During the week ended yesterday noon there were 771 cases of yellow fever and 295 deaths, making in all 1673 cases and 534 deaths. During the twenty-four hours to noon yesterday there were 123 new cases and 40 deaths.

Vicksburg. — At least four hundred cases yellow fever from date of commencement, August 12th, to yesterday evening, and 69 deaths; 20 deaths during last twenty-four hours. Dr. Booth, in charge of the marine hospital service at that port, telegraphs : "I am sick ; impossible to procure accurate data."

Memphis. — One hundred and forty-four cases of yellow fever and fifty-three deaths during six days to Friday evening.

Canton, Miss. — First case of yellow fever occurred at Canton on August 1st. To yesterday evening there were eighteen cases and eight deaths.

Port Gibson, Miss. — First case yellow fever, originating in Port Gibson, occurred August 3d, resulting in death August 8th. The disease began to spread August 14th. One hundred and eighteen cases and nine deaths to yesterday morning.

Cincinnati. — To yesterday evening no more cases yellow fever had developed at Cincinnati since the two mentioned in the last report. The engineer of the steamer Golden Rule was admitted to hospital the 22d inst. with yellow fever, and also one other case, probably yellow fever, from Memphis.

Morgan City, La. — One case of yellow fever August 21st, patient from New Orleans.

Ocean Springs, Miss. — Three cases yellow fever and one death ; all imported.

St. Louis. — Four refugees died of yellow fever at St. Louis during past week.

Louisville. — Four river boatmen suffering from yellow fever are under treatment in an improvised hospital on the Marine Hospital grounds, admitted from steamers John Porter, Sunflower Belle, and Golden Crown, on the 17th and 18th inst.

Mobile. — The case reported as yellow fever August 16th is now officially announced as undoubtedly a mistake. Dispatches to 23d inst. report good health.

Key West. — No yellow fever for three weeks to yesterday evening.

Grenada, Miss. — So many of remaining population stricken with the fever that definite information of number of cases and deaths could not be obtained.

Havana. — Ninety deaths from yellow fever and six of small-pox : week ended August 17th.

Matanzas. — Decreased cases yellow fever. Only five American vessels in port August 16th, and all of them have either had or were having cases of yellow fever on board.

Cardenas and Sagua la Grande, Cuba. — No yellow fever. Advices to 16th inst.

Bombay. — Thirty-three deaths from cholera and fifteen from small-pox : week ended July 2d.

Calcutta. — Nineteen deaths from cholera and thirty-six from small-pox : week ended June 22d.

Reports from other places indicate good health. John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 17, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	569	27.06	23.42	28.71
Philadelphia.	876,118	353	20.95	18.80	21.54
Brooklyn.	549,438	247	23.38	21.51	25.50
Chicago.	460,000	172	19.43	17.83	22.39
Boston.	375,476	189	26.18	20.10	24.34
Providence.	100,000	46	23.92	18.81	19.20
Lowell.	55,798	39	36.35	19.09	22.50
Worcester.	54,937	17	16.09	20.06	22.30
Cambridge.	53,547	32	32.04	18.69	20.83
Fall River.	53,207	22	21.50	21.35	24.96
Lynn.	35,528	17	24.90	20.42	19.67
Springfield.	33,981	12	18.37	16.02	19.77
Salem.	27,140	4	7.66	20.38	21.15

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THE GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Evans House, the first Thursday of September, at two o'clock P. M. Doors open to members of the profession, who are cordially invited to be present, after the transaction of society business. HENRY M. FIELD, *Secretary.*

APPOINTMENT. — Dr. J. B. Swift has been appointed assistant port physician in place of Dr. Ricker, resigned.

BOOKS AND PAMPHLETS RECEIVED. — Krankheiten bei Syphilis. Von Dr. M. Haefler, Praktischer Artz in Tölz. München. 1878.

Life. Advanced Sheets of a New Work on Physiology. By W. H. Triplett, M. D. Washington, D. C., U. S.

Scraping-Spoon (Mr. Balmanno Squire's) for the Treatment of Lupus Vulgaris, Lupus Erythematosus, Rodent Ulcer, etc. Manufactured by John Weiss & Son, 62 Strand, London.

Medico-Legal Evidence relating to the Detection of Human Blood presenting the Alterations characteristic of Malarial Fever, on the Clothing of a Man accused of the Murder of Narcisse Arrieux, December 27, 1876, near Donaldsonville, State of Louisiana. By Joseph Jones, M. D., Professor of Chemistry and Clinical Medicine, Medical Department of the University of Louisiana, etc. (Reprint.)

Cholecystomy for the Removal of Gall-Stones in Dropsy of the Gall-Bladder. By J. Marion Sims, M. D., etc. (Reprint.)

Transactions of the South Carolina Medical Association, Twenty-Eighth Annual Session, Greenville, S. C., April, 1878.

Anatomy, Descriptive and Surgical. By Henry Gray, F. R. S., Lecturer on Anatomy at St. George's Hospital Medical School. A new American from the eighth and enlarged English Edition, to which is added Landmarks, Medical and Surgical, by Luther Holden, F. R. C. S. Philadelphia: Henry C. Lea. 1878. (From A. Williams & Co.)

A Practical Treatise on the Diseases of the Ear. By D. B. St. John Roosa, M. A., M. D. Fourth edition. New York: William Wood & Co. 1878. (From A. Williams & Co.)

On the Therapeutic Forces. By Thomas J. Mays, M. D. Philadelphia: Lindsay and Blakiston. 1878. (From A. Williams & Co.)

Atlas of Skin Diseases. By Louis A. Duhring, M. D. Part IV. Philadelphia: J. B. Lippincott & Co. 1878.

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CONCERNING CORONERS AND THE THEORY AND PRACTICE OF INQUESTS.[1]

BY THEODORE H. TYNDALE.

RETURNING now to our starting-point, let us follow this line together.

THE SOLE PURPOSE OF AN INQUEST IS THE DETECTION OF CRIME.

That being its object, what is the process of conducting it?

A body is found dead under circumstances indicating that violence may have caused the death. The whole question to be determined is, Has a crime been committed? This question resolves itself into two others: First, Has the death been caused by violence? and second, Does that violence constitute a crime? The solution of the one is your business, the answering of the other is the business of the courts. The first is determined by a physical examination, the second by hearing sworn testimony to the facts, and applying the law to them. *Is there violence?* that is the medical question; *Is it criminal?* that is the legal question.

When a dead body is found, not infrequently it will happen that there is in the first instance no suspicion of violence. It will happen that the cause is wholly unknown; that the persons who find the body know nothing more than that here is a body found dead, or that they have seen some one suddenly die, but the cause they neither know nor have any ground to suspect. It is this class of cases that gives rise to one of the questions I wish to discuss with you. They will often be found not to require an inquest, and such cases are finished with the view.

But since violence *may* have caused the death in any such case, and since the persons, often ignorant, that find the body naturally turn to an authorized official to report the case, and considering the paramount importance attached by the State to everything that concerns human life, the view should always be held and never declined. No death, the reason of which is not clearly known, should be permitted to pass unnoticed, or the reason of it left to inference. Some responsible and competent person should in every case satisfy himself that the death is not a subject for further inquiry. Neither should the examiner ever be content to decline to see a body because the story told him seems to make it clear that it is a death by natural means. The State has entrusted to his judgment an important step in its most important interests, and to decline to exercise his own faculties, and to make up his judgment on unverified hearsay, would be to be faithless to his trust, and to betray the grave charge committed to him.

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[1] Concluded from page 272.

You cannot expect to be free from insufficient understanding and misconstruction of the law by others. While, therefore, you will often find that the death was not violent, but natural, it is nevertheless imperative that the view should be held.

As before stated, the question, Was the death caused by violence? is answered by a physical examination. Incidentally, however, some "personal inquiry," as the law terms it, will frequently greatly assist you in answering this question. Information as to previous condition, surroundings, habits, circumstances under which the deceased was last seen, will materially assist the medical examiner in his investigation.

For instance, a body is found on the seashore. The examiner learns this fact from bystanders or neighbors. The body is dressed in ordinary sailor costume. A storm has recently been raging along the coast, and portions of wrecks are cast upon the beach. The man is a stranger, whose face is not known in the neighborhood; there are no marks or tracks in the sands indicating that the body was brought there by others. These external facts being ascertained by inquiry, the medical examiner will have little question that this was a death by the perils of the sea. He is, therefore, also to seek by inquiry to gain such information as will enable him correctly to reach a conclusion. But he must be careful to use such information only to assist him in answering *his* question, "Was the death violent?" and on no account to go beyond this limit and attempt to determine who was guilty of the violence, whether it was criminal violence, or what degree of crime it amounts to. With this qualification, if the appearance of marks, or wounds, or the indications of the body point to the conclusion in his mind, as a scientific expert, that the violence was self-inflicted, he is unquestionably bound to state that fact carefully. This, however, will be seen to be not an exception but rather a confirmation of the rule above laid down, that the examiner is not to go into the inquiry, Was the violence criminal? suicide not being punishable as a crime. In death by hanging, certain indications assist the determination of the question whether the deceased was hung after death or during his life. The abrasions or ecchymoses may often indicate by their location whether the suspension was by the victim's own hands. In cases of death by incised wounds, the direction, and in the case of feeble persons the force, of the cut or blow may point clearly to self-infliction.

In cases of death by poison, certain appearances about the mouth may assist in establishing whether it was administered by the deceased. In these and a thousand similar cases it is unquestionably the duty of the medical examiner to give his opinion, as a scientific inference, whether the body indicates death by suicide or not; but this so far only as it is indicated by the visible facts, or the well-authenticated scientific deductions from these.

Who did it, if another, and under what circumstances or what provocation? these questions the medical examiner must carefully abstain from considering. They are not his province, and indeed *he has not the means of solving them.* They are to be answered by the sworn testimony of others to facts not in themselves apparent. As he cannot even administer an oath to a witness, how can he hear sworn testimony? What he has not the means of ascertaining, how can he determine?

It being the purpose of an inquest to detect crime, in order that the criminal may be punished, it follows that where no one is to be punished no inquest is necessary. Unless, therefore, another's act may have caused or contributed to the death, there is no occasion to hold an inquest. Violence may take place without human coöperation. Deaths by drowning or falling are violent, but if they do not involve the act of another, it is perfectly apparent that such deaths are not violent within the meaning of the law. An inquiry designed only to aid in the detection and punishment of crime is needless where no crime has been committed. And if another's act did not contribute to the death, there was no crime, and there is consequently nobody to punish. It is clear, therefore, that the violence contemplated by the inquest law is *violence caused or contributed to by another.* Although not usually involving the act of another, it is nevertheless necessary always to submit cases of suicide to inquest, because on the one hand the physical indications may not be alone sufficient to place the fact of suicide beyond a doubt, and because on the other, even in cases of undoubted self-destruction, another's criminal act may have incited to it, and as this involves the hearing of evidence it must of course go to the court. The purpose of the inquest in such cases will be to discover whether another's act contributed to the self-inflicted violence. In all respects, therefore, the violence contemplated by the theory and the law of inquests is *violence caused or contributed to by another.* Violence in this sense, however, is not necessarily physical force applied to the victim. The leaving exposed of dangerous substances or weapons, counseling another to commit suicide, the administering of poison, yes, even acts of mere omission, such as failing to let a child or feeble person receive sufficient nourishment, building a structure so recklessly as to endanger life, — all these are, or may be, acts of violence in the contemplation of the law. The first thing required by the law is that the medical examiner shall *take charge* of the body, and this in order, first, that its examination may furnish all the evidence to be obtained from itself, its appearances and indications; and, second, that it may not by any possible chance be tampered with, and the evidence of crime concealed or destroyed. To *take* and *keep* charge of the body is therefore of the highest importance to attain the ends of justice. That this will not always be acceptable to friends and relatives, and will sometimes be vehemently objected to, is a matter of course, and of no importance. The State's business must override the preference of individuals. The interest being important enough for the State to make it its own, all private interests must yield.

Objection may also be made that to take charge of the body will be unnecessary in many cases, as of evident accident not involving another's act, and where there are friends of the deceased at hand. The answer to this is that such cases end with the view, and the medical examiner has then no further *charge*. In all cases that do go further than a view, they do so because a crime may have been committed, and it is of the greatest consequence to retain charge, as before stated. Under the law the inquiry is to be into the *cause and manner* of the death. It is not enough to state in the report the immediate proximate *cause* of death, and nothing more, as, when a man bleeds to death from a cut, to say that he died of hæmorrhage, without the addition of the likewise medical fact that the hæmorrhage was from an incised wound, that the wound was made by a knife or edged tool, if that fact can be ascertained, and that the indications (if such be the case) point to its self-infliction or otherwise. Cause is one thing, *manner* another, and the object of the law, as well as its language, requires both to be ascertained and reported.

With the remaining question, if violence is found to have been committed, whether that violence constitutes a crime, and what crime, the medical examiner, as has been said, is happily not concerned.

Was it an accident to which, although another's act caused or contributed to it, the law attaches no blame? Was it an act of justifiable self-defense? Was it an assault, manslaughter, or murder? These grave and intricate questions the medical examiner is exempt from considering and deciding. These, together with questions relating to the admissibility of evidence, are as much matters of law as the sentence passed upon a convicted person. They are purely and solely for the court.

The medical examiner's business, as such, is finished with his report. He will, if it be a case of violence proceeding from another, be called upon to testify as a witness at the hearing and subsequent trial; but he is merely a witness, and has nothing further to investigate or decide. He has made the examination and determined the fact of violence, and now it remains for the court to establish whether the violence is or is not criminal.

Whether the courts, for want of evidence or other causes, do or do not proceed with their part of the matter, the examiner will nevertheless always do his duty, and never be discouraged or deterred from doing it by the fact that the other branch of the inquiry does not reach a satisfactory conclusion, or indeed any result at all. His line of duty is clear; his duties and the court's are distinct, independent of, and coequal in importance and value with, each other.

Having performed his duty, he is not called upon to shoulder the responsibility of the other's work also. Questions of evidence, of accident, of self-defense, of degrees of crime, these are not for him to decide. To repeat, then, "Whether a given death result from natural causes or not, so far as the body indicates, the physician's examination is competent, and alone competent, to decide; whether, the fact of violence being established by such examination, that violence constitutes a crime, and if so, what crime, the testimony of witnesses to external facts, and the law applied to those facts, alone can determine. In technical language, whether a homicide has been committed or not is a medical question; whether that homicide be the result of accident, or be justifiable homicide, or manslaughter, or murder, is a legal question." These words were written before the passage of the present law; indeed, they formed the criterion and basis of the division of functions in the new law. In other words, again, with a view to determining whether a death was one by violence caused or contributed to by another, the physical examination, supplemented by such inquiry as will assist his determination of that question, — this is the examiner's business, and his *alone*. With a view to determining whether that violence is criminal or not, and if criminal, in what degree, the hearing of sworn testimony, passing upon its admissibility, and laying down the law, — this is the judge's business, and *his* alone. Neither can and neither should attempt to make a decision, or do anything whatever, which will in any degree interfere with the business of the other. The medical examiner, therefore, is not called upon to decide the question whether or not the violence was *criminal;* he cannot and never ought to do this.

The very purpose and foundation stone of the new law is to divide into its several constituent elements the work involved in the inquiry. Neither is, henceforth, ever again to be confused or mixed with the other. Each is the distinct and separate function of a distinct and different official. We are to remember, then, that the *inquest* is to be held by the court, — it is the *inquiry* into the facts outside the body; the *examination* is to be made by the examiner, and it leads the way to the inquest.

However difficult the solution of questions arising under the law may seem, it may be readily found by reference to the principle involved; the principles of the law are simple and well-defined. Its purpose is the detection of crime; its method, the division of functions among those properly qualified to perform them.

If I have dwelt upon this with too great insistence, and at the risk of being wearisome, you must forget it in the consideration that it is the corner-stone of the new edifice, and however imperfect as yet may be the superstructure, it must always rest upon this simple doctrine: that to get work efficiently done, states and nations, like individuals, must employ those whose proper employment it is and who are qualified to do it.

Undoubtedly improvements are desirable in the future, such as returning a body to the county where the deed happened, where the evidence is to be sought for, and where the superior court proceedings must be had, for the medical examination and report. Certain minor details of fees of trial justices and the like also escaped observation in the drafting of the law. This particular defect, however, was remedied by a short statute (chapter 235) passed during the session just closed. But it is wiser to wait before attempting any change until we know something more of the workings of the law as it stands, and have sufficient statistics to aid us in determining what changes are needed. It is better also to wait until a sufficient number of changes have suggested themselves as improvements, so that they may be acted upon at one time. When, therefore, the proposition was made last winter to amend the law in certain particulars, it was deemed best not to disturb it at present, but to await further results before attempting to improve upon it.

The new law has shown itself capable of producing exact, valid work, and its harmonious and successful operation cannot fail to exert a good influence on the general public respect for laws. It is yet too early for an accurate statement, but so far as has been learned it is financially a marked improvement over the old law. Whether it shall continue to prove useful depends in great part on your endeavor to make it so. And, no doubt, it will so continue; no doubt, with increasing familiarity and experience, your work under it will prove more and more important, and will more and more illustrate its capacity efficiently and worthily to support its part in the administration of the criminal law.

CASES OF OVARIOTOMY.

BY JOHN HOMANS, M. D.

CASE VII. *Multilocular Cyst of the Left Ovary; Antiseptic Ovariotomy; Recovery.* — Miss K. B., aged twenty years, was seen by me in consultation with Dr. C. C. Holmes, of Milton, December 11, 1877. At that time her umbilical girth was thirty-three and a half inches, temperature 100.6° F., pulse 132, of fair strength, and her general condition encouraging for operation. Dyspnœa and general discomfort had induced Dr. Holmes to tap the cyst on December 5th, when twenty pints of clear yellow fluid were removed. Her health first began to fail in March, nine months before I saw her. On March 19, 1878, twenty-eight pounds of brownish-colored fluid were removed by aspiration, and soon after this the patient decided to have the tumor removed. This was done at the Carney Hospital on March 30th under carbolic acid spray. The incision was five inches long, and subsequently was somewhat enlarged; there was a slight amount of ascitic fluid; the adhesions were strong, quite vascular, and almost universal throughout the anterior and lateral portions of the cyst wall, and to the diaphragm on the left side they were particularly intimate and difficult to separate. Many of the bands of adhesion were tied in two places with silk or catgut, and divided between the knots; others were cut through with saw-toothed scissors, and many were ruptured by manual force. A small laceration of the surface of the uterus, which bled freely, was sewed up with carbolized catgut. The pedicle was first compressed with Dawson's clamp, then tied in two halves with carbolized catgut, cut off, and dropped back. This method I have adopted in my last two successful cases, and am very well satisfied with the results. The cyst was extremely multilocular, and the inner cysts were broken down with considerable difficulty. The contents of one of them was shreddy-looking (very likely this was the large cyst aspirated about two weeks before). The cavity of the abdomen was thoroughly sponged out, and the inner surface of the peritonæum was left red and shaggy-looking. Seven deep and three superficial carbolized silk sutures closed the wound.[1] The patient rallied well from the operation. The pulse rose to 140 on the morning after the operation, and fell to 100 on the third day; the temperature rose gradually to 103.2° on the second day, and was normal on the fifth; the urine was passed voluntarily throughout the period of recovery; at first micturition was frequent (once an hour); flatus passed per anum on the third day; small doses of opiates and stimulants were occasionally required; the stitches were all removed on the seventh day, and the wound found to be healed throughout without suppuration. The bowels moved naturally on the eighth day; patient sat up on the fifteenth day, was out of doors on the eighteenth, and returned home, driving seven miles in a carriage, on the twenty-eighth day. The catamenia appeared in May, and have recurred regularly since. She is now (July 22, 1878) well and strong.

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[1] The cyst and its contents weighed thirty pounds.

A CASE OF SUB-MUCOUS UTERINE FIBROID TREATED BY ELECTROLYSIS.[1]

BY GEORGE HOLMES BIXBY, M. D.,
Surgeon to St. Elizabeth's Hospital for Women.

NOVEMBER 15, 1876, I was consulted by Mrs. S., aged forty-five, a native of Maine, but a resident of California, for an obscure abdominal tumor. Her mother died of cancer of the breast, and a sister after an operation for the removal of a fibrous tumor of the uterus which had undergone partial spontaneous enucleation. The patient was a decided blonde, above the average stature, with fair nutrition. Menstruation was established at seventeen, and continued normal. She was married at twenty-two, gave birth twice, the first time a year after marriage, the last three years later, twenty-one years ago. There were no miscarriages. Menstruation continued regularly for the next twelve years. Six years previous to consulting me, a day or two prior to a usual period, her attention was accidentally directed to a growth in the right ovarian region. The tumor slowly but steadily increased in size, but for four years the general health, as well as the menstrual function, was unaffected by its presence. During the last two years a decided influence on the catamenia has been apparent. At each period there was a marked increase in the quantity of the flow and a lengthening of the duration of the function. Lasting when she was in health from three to five days, it was now prolonged to ten, twelve, and at times fifteen days, and attended by severe expulsive pains and coagula. The past year all the above-mentioned irregularities and complications have steadily increased, together with severe gastric irritation and a condition of general depression amounting well-nigh to coma.

By palpation I found the abdomen covered by a dense layer of adipose tissue; at the right of the median line, arising from within the pelvis and extending above the umbilicus, a smooth spherical tumor the size of the fœtal head, apparently without adhesions. Vaginal exploration and bimanual palpation showed a well-defined growth arising from the right and upper part of the uterus, extending downward toward the cervical portion of the organ. The sound passed nine inches. By rotating the tumor presenting above the pubes with the sound in the uterine cavity, the intimate relation of the tumor with the uterus was clearly established.

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[1] Read before the Obstetrical Society of Boston, May 11, 1878.

Diagnosis: sub-mucous uterine fibroid.

Before entertaining any operative procedure, in view of the menorrhagia, I suggested a trial of ergot hypodermically administered. The lateness of the season necessitated an early return to California. I was therefore obliged to postpone the treatment for the time. The journey, undertaken the next week, was attended with great discomfort, which aggravated all the symptoms at the next menstrual term. Early in January, 1877, she wrote me a most doleful letter; her sufferings at each menstrual period the entire winter had been so intense that life had become a burden. She had determined, therefore, as soon as the season would permit, to proceed East prepared for any operation which would offer the slightest hope of relief. A month later I saw her, three days after her arrival in Boston. The journey from her home to San Francisco, some sixty miles by stage, and the remainder of the route, requiring in all ten days of the most tedious travel, exhausted her greatly. While passing under the snow sheds, though well protected, she experienced a severe chill. I suggested giving the patient ample time to recuperate fully from the long and wearisome trip before commencing the proposed treatment. On the sixth day after her arrival marked symptoms of phlebitis appeared in the left leg. The inflammation continued with varying intensity, confining the patient to the bed for eleven weeks.

All the symptoms having then subsided, I deemed it safe to begin the ergot treatment. Accordingly, I injected into the cellular tissue in the vicinity of the abdominal portion of the tumor fifteen minims of a solution of Squibb's aqueous extract of ergot, each minim containing a grain of the drug.[1] No result followed the first application. The next night fifteen grains of the same form of ergot were employed by rectal suppository, and repeated on the following evening. Four hours after the last application the most violent uterine contractions ensued, and continued at intervals of ten or fifteen minutes for twenty-four hours. The patient became so exhausted from the wear and tear of the pains and the loss of sleep that I was forced to counteract the effects of the ergot by large doses of opium by the rectum.

At the patient's fervent solicitation this method of treatment was abandoned, for a time at least.

September 7th, the case was carefully examined under ether by Drs. Kimball, Wheeler, Chadwick, and myself. The greater facility afforded by the anæsthesia convinced us that any surgical interference was not to be thought of, Drs. Kimball and Wheeler earnestly recommending the trial of electrolysis.

September 25th, four days after the cessation of the following menstruation, without any previous preparation, the patient being profoundly

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[1] As prepared for me by my druggist, Mr. Edward Kelly, of Boston.

etherized, in the presence and with the assistance of Drs. Wheeler, Webber, and Cutter the electrolysis was performed as follows: I introduced one electrode into the segment of the tumor presenting in Douglas's cul-de-sac (the needle entering three inches), the other pole being applied to the surface of the abdomen immediately above the tumor. Dr. Webber allowed the current from fifteen and later from eighteen cells of a constant battery to pass through the substance of the tumor for ten minutes. The pulse, which was seventy and full before the ether, fell to sixty at the end of five minutes, and to fifty at the close of the application. Complete recovery from anæsthesia took place five hours later, the pulse continuing slow and feeble.

September 26th, A. M. A quiet night; urine voided voluntarily; pulse 55; the abdomen somewhat tympanitic and sensitive on pressure. Brandy and water was ordered to be taken half hourly.

September 26th, P. M. Pulse 60; nourishment taken and retained.

September 27th. Reaction fully established; pulse 70; slight tenderness over the abdomen; nourishment taken freely.

From this time on there was little of interest to note from day to day, convalescence proceeding without interruption, the patient resuming her ordinary duties on the eighth day. Menstruation recurred October 25th, thirty days after the operation, with an interval of thirty-six days; was painless, free from coagula, and of five days' duration. The second menstruation appeared February 14, 1878, continued five days, was painless, and without coagula. The interval was one hundred and eleven days. The third menstruation began March 17th, with twenty-six days interval. The day previous to the event the patient spent several hours in active exercise over an intensely hot fire. The flow continued ten days, but without complication. A marked improvement, general and local, dated unquestionably from a week subsequent to the operation, and has continued without interruption.

April 16th. The patient considers herself in perfect health, walking and driving without discomfort, having added fifteen pounds to her weight. A careful examination of the tumor showed its upper margin to be two inches below the umbilicus; by actual measurement in all dimensions markedly diminished; the sound passed seven inches instead of nine before the electrolysis.

April 26th. Twenty days after the cessation of the catamenia she ventured to start for home. A note received subsequently to her arrival informs me that after quite a jar from shackling of the cars at Detroit the catamenia appeared, the interval being thirty days. She was considerably alarmed, and anticipated trouble. On the contrary, however, the function, though somewhat profuse, continued without the slightest discomfort during the rest of the journey. In her note she adds: "I have not felt a pain since I left Boston, and with the exception of slight colds I have never been in better health."

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M. D.

Double Staining. — We have repeatedly reported new methods of coloring microscopic specimens so as to present two colors. To be of any real value it is essential that at least one of the pigments should have a special affinity for certain tissues, and that the reaction should occur with some certainty. By far the most reliable agent used in this way is picric acid, which may be trusted to attack muscular fibre wherever it finds it. Most of the others are disappointing, though they sometimes give beautiful effects. One reason, no doubt, is that few of those who experiment with them have the patience to acquire by long practice the necessary skill in their use; still it is remarkable that none seem to come up to the expectations of their discoverers. Dr. Schiefferdecker[1] reports very excellent results from the combination of eosin with one of the following dyes: dahlia, which is a bluish green aniline color, methyl violet, and aniline green. An alcoholic solution is made of the eosin, and the specimen remains in this an indefinite time. It is then washed and transferred to a one per cent. aqueous solution of one of the other colors. It soon becomes almost black, and then, having been again washed in water, it is put into alcohol. This dissolves both coloring matters, and apparently the most important part of the whole process is to take the specimen out at the right moment. It is then put into oil of cloves, which does not act on the eosin, but continues to dissolve the blue or green, so that when the specimen is transparent the oil must be thoroughly removed. Canada balsam dissolved in chloroform is used for mounting, and the slide is to be kept in the dark on account of the eosin.

Calberla[2] appears previously to have obtained good results in double staining by mixing an aniline color called methyl green (*vert en cristaux*) with eosin in the proportion of sixty parts of the former to one of the latter, and dissolving the whole in warm thirty per cent. alcohol. Calberla mentions also a dark blue coloring matter called indulin, which has the peculiarity of never staining the nucleus, but only the body of the cell, or more frequently the intercellular substance. We give some of his statements: the epithelium is never, but the intercellular substance is always colored; the same is true of muscular fibre and gland cells. Connective tissue becomes blue, but the nuclei are not clear. It is very good for tendons, as the cells, not being affected, appear like white stars on a blue ground. Indulin is readily soluble in warm water. Calberla recommends that the saturated solution be diluted with six volumes of water. The specimens can be mounted in either glycerine or balsam.

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[1] Archiv für mikroskopische Anatomie, Band xv., Heft 1.

[2] Morphologisches Jahrbuch, Band iii., Heft 4, 1877.

Weigert,[1] after enumerating the requisites of coloring agents, concerning which all are pretty well agreed, recommends a new one called Bismark brown. A concentrated solution is made by boiling the color in water or weak alcohol. After the staining the color is set by absolute alcohol. We fail to see in what it is superior to hæmatoxylin, unless perhaps in durability.

While we are on this subject we may call attention to Taffain's method, mentioned in this journal of July 25th. He mixes four parts of a saturated solution of aniline blue with one hundred of a saturated solution of picric acid. We do not understand that there is any double staining, but simply a fine green, as the result of the mixture.

The Shape of the Liver. — Professor His[2] has investigated the topography of the abdominal viscera by a new method, which not only shows the true shape and position of the organs, but records it. This method consists in making a series of plaster casts, one after another, as organ after organ is exposed or removed; but an essential part of the process is first to make the parts sufficiently rigid to retain their proper shape when those that support them are taken away. For this purpose the jugular and femoral veins are opened, and the body injected from the femoral artery with a solution of chromic acid of the strength of one, or half of one, per cent. This is done under moderate pressure, and continued till the skin and mucous membrane become yellow, and till the chromic acid flows from the veins instead of blood. This requires from five to ten litres (say quarts). The effect of this injection made the loose connective tissue rather œdematous, but the walls of the hollow organs, such as the stomach and intestines, became stiff. The lungs also retained their shape when laid bare, and the liver was firm. The arms and legs were cut off after injection, and the body encased in plaster. To make the body as immovable as possible, threads were drawn through the skin and left with their ends hanging out before the plaster was applied. As the illustrations show, very instructive models may be obtained in this way. The most interesting part of the paper is that relating to the liver. This organ is generally described as having a superior and an inferior surface, with a thick border behind and a thin one in front; a description which, however true of the liver as it lies on a table, distorted by its own weight and drained of its blood, is quite incorrect if applied to the liver as it is during life. Even if this point could not be demonstrated, it might be inferred, from the discrepancy between the account of the fossa of the vena cava and the position of the foramen through which that vein enters the thorax. This foramen is by no means at the posterior border of the diaphragm, and it is evident that the vein must run forward in the upper part of its course to reach it; nevertheless the fossa or fissure for the vena cava is described as running upward and backward. Now His shows, and it seems impossible to doubt the correctness of his views, that the so-called thick posterior border of the liver really is a posterior surface of considerable extent, and that practically the whole of the lobe of Spigelius and the fossa of the vena cava are on this posterior aspect. He shows by observations on hardened and on injected livers that the flattening is due largely to the escape of the blood. Professor His then refers to the views of Vesalius, since accepted by Cruveilhier and Braune, that the liver might be considered as filling space in the abdomen much in the same way that fat and areolar tissue do in various parts of the body. Luschka does not go so far, but admits that the shape of the liver may be modified by derangements of the position of the neighboring organs. His appears to be of the latter opinion. He believes that the liver can to some extent accommodate itself to the temporary demands of other organs for more room, but he thinks that we must assume that it is of softer consistence during life than after death, and that any diminution of its size or indentation must be brought about chiefly by the expulsion of blood from its vessels. He attaches great importance, however, to the plasticity of the growing liver, which extends in whatever direction it encounters the least resistance. The appearance of aberrant gall-ducts bears witness to the way in which the liver atrophies before the advance of other organs, as, for instance, of the stomach.

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[1] Archiv für mikroskopische Anatomie, Band xv., Heft 2.

[2] Archiv für Anatomie und Entwickelungsgeschichte, 1878, Heft 7.

The Last Spinal Nerves. — There has for a long time been much uncertainty concerning several points in the structure of the filum terminale of the spinal cord, and in regard to the significance of the nerve fibres found in it. Rauber,[1] who is, we believe, the latest writer on this subject, quotes Luschka's views of the filum, and we think this section worth translating, as it may make Rauber's discoveries more easily understood: "Luschka distinguishes in man a filum terminale externum and internum" (one being the continuation of the other). "The latter lies free in the sheath of the dura mater, and is on an average sixteen centimetres long in the adult. In its first third it contains a more or less distinct central canal lined with ciliated epithelium, and surrounded by a molecular layer containing round, pale, nucleated cells. Besides these there are nerve fibres which, in varying numbers, extend through the other two thirds. . . . . The second division — the filum terminale externum — is eight centimetres long, and represents the thread-like termination of the cord. It extends from the second sacral to the second coccygeal vertebra. . . . . After treatment with acetic acid we find invariably three or four nerve fibres, which readily become varicose and are lost in the periosteum of the dorsal side of the coccyx." There is usually but a single coccygeal nerve on each side, though many years ago Schlemm described as an anomaly the occurrence of an extra one on both sides. Several authorities have been inclined to look on the nerves contained in the filum as vaso-motor nerves for its vessels. Rauber has made a number of transverse sections of the filum, and finds that the nerve fibres in it appear to collect themselves into bundles and to form two pairs of nerves, which, though they go nowhere in particular, he believes represent two other pairs of spinal nerves; in fact, the second and third coccygeal. He believes that certain groups of nerve cells found in the filum represent the ganglia, and it must be admitted that the appearance of the cells, of which he gives drawings, favors the supposition. There would appear to be a good deal of variation in these cell groups, but that is to be expected.

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[1] Morphologisches Jahrbuch, Band iii., Heft 4.

(*To be concluded.*)

PROCEEDINGS OF THE SPRINGFIELD SOCIETY FOR MEDICAL IMPROVEMENT.

G. S. STEBBINS, M. D., SECRETARY.

FEBRUARY 5, 1878. Vice-President Sanford Lawton in the chair.

Lead Poisoning. — Dr. G. C. McClean read a valuable paper upon this subject. He premised by saying that descriptions of lead disease, more especially lead colic, were very ancient. It was written about long before Hippocrates' time, though with no clear conception as to its cause. Greek, Latin, and Arabian writers describe it, and it has received a great variety of names, from the locality of its occurrence or the class of artisans affected. The seventeenth century furnished many descriptions of lead colic, and the epidemic which called attention to it was found to be due to the use of wine adulterated with lead, so that some imperial orders were passed in regard to it.

During the eighteenth century many voluminous treatises upon the subject appeared, and a more accurate knowledge was arrived at concerning it. At present our knowledge of lead poisoning seems nearly complete, unless chemistry has something new to teach us.

The effects of lead introduced into the system were spoken of under four divisions: colic, arthralgia, paralysis, and encephalopathy.

Regarding the relative frequency of these classes of the disease, Tanquerel's analysis of 2171 cases gives colic 1217, arthralgia 755, paralysis 127, encephalopathy 72.

The ways in which lead enters the system are various, the most common being by means of its varied preparations as used in the arts. Among the other sources enumerated were sleeping in newly-painted rooms, the use of water or other fluids contained in leaden vessels or passing through lead pipes, the use of snuff or tobacco put up in lead, the medicinal use of the salts of lead, etc. The usual array of symptoms has been produced by the use of acetate of lead in solution (eight grains to the ounce) as a collyrium. The Devonshire colic was caused by the introduction of a bit of lead into each barrel of cider for the purpose of arresting fermentation.

Of Tanquerel's 1213 cases analyzed with regard to occupation, one third were makers of white lead, one fourth were painters of buildings, and the remainder were divided among thirty-two occupations in which lead was used to a greater or less extent. Children are most frequently poisoned by the lead preparations used in coloring candy and in the painting of toys. Earthenware contains lead, and the glazing upon many utensils is produced by a preparation of this metal. Soda water has been proved by analysis to be frequently contaminated with lead. Most cosmetics and many hair dressings contain lead, and have been known to produce the characteristic symptoms.

The season of the year has a marked effect in the production of lead poisoning. Of 1217 cases, nearly one half occurred in the months of May, June, July, and August. July furnished one hundred and ninety cases, while December gave only fifty-nine. Hence the conclusion that heat is an important factor, by either favoring the dissemination or rendering the absorption of the poison more active. In respect to age, of 1217 cases the greatest number were between thirty and forty years old. Regarding sex, it has been found that with equal exposure females were less frequently affected. Constitution and temperament have appeared to have but little influence, while hard drinkers have been found to be very susceptible to lead poisoning. One attack of the disease predisposes to another, the exposure being the same; and there may be relapses with no new exposure. Animals which live or work about lead factories are subject to colic, and occasionally to the other forms of the disease.

Colic is the form of the disease most frequently met with, and therefore will receive the most attention. Certain signs appear in nearly all cases which give warning of its approach, and these have been called the primary effects. Of 1217 cases, 1185 exhibited these to a marked degree, the most frequent being the discoloration of the gums and teeth, the edges of the gums having a bluish or slate color, which gradually shades off to the natural pink. Occasionally, however, the whole mucous membrane of the mouth is slate color. The gums shrink up and denude the teeth, the retraction being generally confined to the outside, and the lower jaw is more frequently affected than the upper. Ulceration is rare. The teeth become brown, brittle, and may be lost prematurely. Analysis has proved the coloring matter of the teeth and gums to be sulphuret of lead, the hydrosulphuric acid required for its formation being supplied by the decomposition of food adhering between the teeth. This symptom may be developed in a week, or not till after years of exposure. Offensive breath and metallic taste are almost always present, though these may be produced by metals other than lead. There is always marked pallor, which sometimes amounts to what is termed lead jaundice. The whites of the eyes, and more frequently the face, turn a pale earthy yellow. This is due to the deposition of lead in the tissues from the blood, in which it circulates in solution. Emaciation is another pretty constant primary effect, and is most extreme in the face. The pulse is reduced in strength and frequency. The pain in lead colic usually is developed very gradually. There may be simply an uneasy feeling for a long time, to which little attention is paid, but sooner or later it becomes more intense, and is often of the sharpest character. Its seat is generally in the umbilical region, though it may be in any part of the abdomen, occasionally in the thorax and genitals. The effect of pressure varies; sometimes it will cause the pain to shift its position, while in the majority of cases it affords relief. In 1217 cases 703 were relieved, in 303 there was no apparent effect, and in 211 pain was increased. The pain is always paroxysmal, the severity inconstant, usually milder and with longer remissions at night. Constipation is very general. Of the 1217 cases, 1140 were constipated, and 20 had diarrhœa. Retraction and hardness of the abdominal walls was observed in 649 cases; 445 were normal, and 123 fuller than normal. The tension is not lessened by flexion of the thigh. Painful tenesmus sometimes occurs, and the finger introduced into the rectum finds the walls approximated, and that they contract powerfully during a paroxysm of pain. The urethra also contracts strongly, and urine will not flow, nor can a catheter be readily passed during a pain. The bladder is often the seat of severe pain, and pain in the genitals is usual during the intermissions of the abdominal pain. Nausea is a pretty constant symptom, more so than vomiting, as shown by the fact that 908 of the 1217 cases were troubled with nausea. Gas is formed within the body by the action of the lead, and escapes chiefly by the mouth. Accumulating in the bowels it forms tumors. Hiccough is generally the precursor of an intense colic. The tongue is coated white or yellow, and is generally enlarged. Thirst is often great, while the appetite is very poor. Respiration suffers only as in other severe pains, and when the pain extends to the thorax a sense of suffocation is experienced. In most instances the pulse is diminished in frequency, and has a peculiar hardness, which has been compared to the sensation given to the finger by a vibrating wire. When the pulse manifests this peculiar characteristic it is a sign of convalescence. In certain cases where the abdominal walls are much retracted, the pulsations of the aorta can be seen and felt as far as the umbilicus. Muscular strength is much reduced, and nutrition greatly interfered with. Febrile movement does not exist unless by some complication. The expression of the face is much changed by the tension and retraction of the muscles. The intellect is often affected, but only transiently.

Lead is chiefly absorbed through the mucous membrane of the mouth, the alimentary canal, and the respiratory passages, while its entering through the skin has been a matter of dispute. Later authorities incline to the belief that it may, while Tanquerel, and others who made many experiments upon animals, affirm that the skin will not absorb lead if the epidermis remain intact.

Regarding treatment, the essayist enumerated several of the many methods and remedies employed, among which he mentioned hydrosulphuric and sulphuric acids, nux vomica, blood-letting, revulsion, purgatives, opium, chloroform given internally and applied to the abdomen, sulphur baths, warm baths, alum in large doses, and, seemingly the best remedy, the iodide of potassium. As a prophylactic among those constantly exposed to the dangers of lead, very dilute sulphuric acid has a great repute, and is used by the workmen in many large lead factories with apparently good results.

Arthralgia. — Lead arthralgia is described by Tanquerel as characterized by lively pain in the limbs, without redness or swelling, not following the course of the nerves; constant, but with exacerbations diminished by pressure, increased by motion; hardness, tension, and impaired mobility. It may also affect the trunk or various organs. It may occur alone or accompany colic, and is often a precursor of paralysis. Tanquerel records 755 cases, in 201 of which arthralgia existed alone. Besides the usual primary effects of lead, "numbness and lassitude of the parts to be attacked" generally appears. Pain is the chief symptom, and is generally seated among the flexor muscles and in the articulations. In three fourths of 755 cases the pain was moderate or light, and is much less apt to be violent than in colic. Arthralgia may be acute or chronic, and may coexist with other forms of disease. It has been regarded merely as a symptom of paralysis. No pathological change has been discovered other than the presence of lead in the tissues. Much the same treatment has been employed as in colic, with good results.

Lead Paralysis. — This is characterized by loss of voluntary motion, most frequently of the flexor muscles. The first descriptions of the disease are comparatively of modern date. The attacks are produced by the inhalation or swallowing of lead. Tanquerel observed the greatest number of cases in manufacturers of white lead and painters. The precursors of paralysis are lassitude, sense of weight and numbness, occasionally hyperæsthesia of the surface, and diminished motion in the part involved. Besides the general effect upon the body and functions, the affected parts show well-marked atrophy. The well-known "drop wrist" occurs when the extensors of the forearm are affected. The following are some of the means of treatment employed: sulphur baths, electricity, strychnine, iodide of potassium, friction, etc.

Encephalopathy. — This is characterized by delirium, coma, convulsions, etc., and it is the rarest form of lead disease. Tanquerel saw but 73 cases out of 2171 observed. They almost always occur among those who are exposed to a great amount of lead emanation. The duration is very variable, and it is often difficult to determine the starting point, so insidious is its approach. No line of treatment can be relied upon, and the symptoms must be met as they arise, while the prognosis must be regarded as doubtful.

In closing, the essayist enumerated the following means for the protection of workmen: ventilation, wet apartments, handling lead under water, wet sponges as respirators, masks, frequent washing the mouth, cleanliness, milk diet, sulphuric, hydrosulphuric, or nitric acid in the form of acid draughts, occasional purgation, and many other measures, all being used with certain degrees of success.

Dr. A. S. McClean reported the case of a man aged forty-one, who had been employed in a paint shop for many years. He had occasional convulsions, intense colic, drop wrist, emaciation, and all of the usual symptoms of lead poisoning. Iodide of potassium in free doses, faithfully continued, seemed to afford little relief. The bowels were moved with large doses of alum. Sulphate of morphia in one to one a half grain doses was administered hypodermically. The patient died of exhaustion, after a year's suffering.

Dr. P. LeB. Stickney reported a case of a young man employed in a brass manufactory, who manifested the characteristic symptoms of *lead* poisoning. His perspiration was found to leave a green stain upon his undergarments. The patient was in the habit of drinking large quantities of the strongest vinegar he could procure, and the doctor attributed the green color and poisoning to the action of the vinegar upon the particles of brass inhaled or adhering to the surface of the body. He treated his patient with alkalies, with very good results.

Dr. Lambert spoke of an analysis of our spring waters made some years ago by the late Dr. Tully and Professor Dana, by which it was found that the purest spring waters corroded and destroyed lead pipes to a far greater extent than the more impure waters. Dr. Lambert thought that the comparative infrequency of lead poisoning of late years was due largely to the fact that paints were so generally mixed by machinery.

Dr. Chapin referred to cases which had come under his observation of poisoning by drinking soda water which had become impregnated with the carbonate of lead by long standing, or by remaining in the fountain overnight.

Dr. Clark mentioned several cases which had been under his care. They were men employed in the chemical paint works and in the papier maché factory. In the latter, red iodide of lead is largely employed.

HAND-BOOK OF OPHTHALMOLOGY.[1]

Schweigger's hand-book in the original is already extensively known and its merits recognized, as the appearance of three editions within less than five years gives evidence. A translation is to be welcomed, since it will serve to bring the book into the hands of many not familiar with German. The aim of the author, to make this a practical hand-book, has been very successfully attained. The chief characteristics of the book are its accuracy, clearness, and terseness. There is nowhere any attempt at rhetorical effect, it might almost be said nowhere any superfluity. Yet, considering the scope of the work and the relative practical importance of the subjects treated, less space might have been devoted to the ophthalmometer and to the discussion of the value of attempts to estimate the amount to which the fundus of the eye is magnified when observed by the direct method with the ophthalmoscope. This is, however, certainly no serious defect.

In this connection we may refer to the not wholly satisfactory treatment of the direct method of ophthalmoscopic examination. Not that other general hand-books are superior in this direction, but something better was to have been expected from the author of the formerly excellent Lectures on the Use of the Ophthalmoscope. To give for the ophthalmoscopic diagnosis of astigmatism only the oval appearance of the disk and the troublesome method of Coccius, by which a pencil is held close before the flame, and the shadow thrown from it on the fundus of the eye observed, and not to mention the far simpler and more accurate means which are at hand in the observation of the retinal vessels, is something which ought not to have happened. The want of greater care in this respect may perhaps in part be explained by the fact that when the first edition was published, in 1871, the direct method had only just begun to be generally employed, and in this part of the book there had been no change in the text of the subsequent editions.

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[1] *Hand-Book of Ophthalmology.* By Prof. C. Schweigger, of the University of Berlin. Translated from the third German edition by Porter Farley, M. D. Philadelphia: J. B. Lippincott & Co. 1878. 8vo, pp. 555.

But there is very little else that merits anything but approval. The anomalies of refraction and accommodation are treated clearly and concisely, the discussion of strabismus is able and comprehensive. Schweigger is a disbeliever in the doctrine of amblyopia exanopsia, which has been almost universally held, and in this we fully agree with him. His argument against this doctrine is effective, and ought to be convincing. The prominence which is given to the teachings of pathological anatomy forms a very valuable feature of the work, and there is a marked freedom from the use of numerous synonyms, and from that minute subdivision of diseases which so often tends to the confusion instead of the improvement of a reader not thoroughly conversant with the subject.

The translation on the whole is well done. The only serious error we have noticed is on page 162, where "gebrauchsfähigkeit" is translated "vision," and "gebrauchsunfähigkeit" "defect of vision," with the result of quite distorting the author's meaning. The printer's work is very praiseworthy.

THE ADOPTION OF THE METRIC SYSTEM OF WEIGHTS AND MEASURES BY THE U. S. MARINE HOSPITAL SERVICE.[1]

There have been many manuals of the metric system published within a few years, but none seems so fully to reach the end desired by physicians as that just issued to its officers by the United States Marine Hospital Service. Under the act of Congress of July 28, 1866, the metric system was adopted by this service for the purveying of medicines; a recent order directs all its officers to employ it for all official, medical, and pharmacal purposes, and the little manual above named furnishes all desired information regarding its practical employment.

The method of writing prescriptions in the metric system will be adopted by many of our profession, especially by those just entering the ranks. It is hardly reasonable to suppose that those long accustomed to the old method, and entirely satisfied with it, will make the change to the new; but to induce *any* to leave the old system the new must be presented in an attractive and *tangible* form. In 1876 the reviewer wrote: "To understand the metric system properly, and to use it intelligently, a person should *forget* the units of length, volume, and weight to which he has been accustomed, and should, at once and definitely, familiarize his senses with the new measures as they are brought into daily use, irrespective of the old system." The writer has all along contended that, except for the merest temporary use during a term of instruction, the method of *conversion* from one system to another is an error, and that, so long as it is continued, it tends to strengthen the bonds which hold us to the old system, and prevents a ready grasp of the new. Practically we need a dose book in the metric system, and this is just what Prof. Oscar Oldberg, acting medical purveyor, United States Marine Hospital Service, has put before the profession.

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[1] *The Adoption of the Metric System of Weights and Measures by the United States Marine Hospital Service.* Washington. 1878.

Acting on the idea that there are men in medicine who *will not* go over the ground of their earlier days and learn the doses in the metric system, Professor Oldberg has given excellent rules for converting apothecaries' weights and measures into their respective equivalents in metric terms, and also examples of prescriptions and tables of approximate equivalents from one sixty-fourth grain or minim to sixteen ounces.

We are pleased to see that the author confines his nomenclature of the system to gram and cubic centimetre, — of course with the decimals, — avoiding the terms dekagram, hektogram, etc., which are confusing, and liable to lead to error. He however retains the French method of spelling in place of that adopted by the American Metrological Society in 1877, — gramme and metre in place of gram and meter.

The best part of Professor Oldberg's book, however, we believe to be the posological table, compiled from the United States and British pharmacopœias. The list comprises more than six hundred remedies, and gives for each the minimum and maximum doses in terms of apothecaries' weight and in metric terms. For use on the table of the physician the book will be very valuable.

We feel disposed to make but one criticism of Professor Oldberg's dose list, — that is to express the wish that he had adopted the metric line instead of the point, as suggested by Dr. Bolles some time ago, and in general use in this city. The decimal line makes errors impossible. F. H. B.

SUGGESTIONS ON MEDICAL EDUCATION.

As the season for study is rapidly approaching it may interest our readers to be informed what steps the trustees of the Johns Hopkins University are taking in the development of a question which has lately so much engaged the attention of all medical teachers in this country. During the autumn of 1877, a course of twenty lectures was delivered by Dr. J. S. Billings, U. S. A., on the History of Medicine, Medical Legislation, and Medical Education, before the university. These lectures had been prepared at the request of the trustees, and Dr. Billings had given much time and thought to the subject, a trip to Europe having been undertaken by him, we believe, for the purpose of a more thorough study of the subject. His views have been so far approved by the authorities of the university that selections have been made by them from this course, and have been circulated for the benefit of all interested in the question. He proposes in brief that the school should be so organized as not to enter into direct competition with other schools, but should supplement the work in which these are engaged, and offer such instruction as cannot be obtained elsewhere, including, of course, all requisite for a complete medical education.

Although the hospital is to be a model of its kind, it will hardly be in position to afford greater advantages than are now to be obtained in many of our large cities, and clinical instruction could not be a feature in which the school could hope to excel. On the other hand, nowhere in this country do we find encouragement given by the schools to the promotion of medical research, to the special training of teachers, to the instruction of certain specialities like state medicine, including all such branches as public hygiene. forensic medicine, registration, and vital statistics. These, then, are thought to be of great importance in forming the course of instruction. It is not intended that they should replace the ordinary studies, but should be added to them. The prime object of the school, however, should be, in Dr. Billings's opinion, to give such instruction that men when they graduate may be prepared to study for themselves the innumerable problems that remain to be solved, and that they shall also be fitted to impart their knowledge to others; in fact, that the diploma of doctor of medicine should be restored to its old meaning. This mission he thinks it is in the power of the university to fill, untrammeled as it is by customs or traditions, or by lack of means to do what is wanted.

He very properly believes that the school should devote its energies to the instruction of those who, by their previous education, are qualified to receive it. It is not surprising, therefore, that he places his standard very much higher than any adopted by our more progressive schools. He says: "I would advise that the baccalaureate degree of the university be made an indispensable prerequisite to its degree of doctor of medicine." It does not appear that the university degrees would require the amount of study prescribed for the academic course at Harvard, for instance, but in the brief sketch given the Latin, French, and German languages, natural history, botany, physical sciences, logic, mathematics, are some of the subjects mentioned.

Among the features of the medical course not already noticed is a suggestion to establish a course of study of comparative medicine, with clinical facilities afforded by a small establishment for the cure of diseased animals. The last year of the course should be spent in the wards of the hospital, and as this institution could not probably accommodate more than twenty-five students, the graduating class should be limited to that number, which is sufficiently large, probably, to cover all those who for many years would be willing to submit to the rigorous requirements of the diploma. Besides examinations held annually by the teachers in their respective departments, there should be a final examination for the degree, conducted by persons independent of the university. It is not intended by this plan to exclude all those who wish to avail themselves of certain special advantages of the school. Although a graduate of another school could not matriculate in virtue of his title of M. D., or be a candidate for the diploma, he might obtain a certificate as to what he had studied and what examinations he had passed, or perhaps a certificate that he was qualified as a practitioner. He could at any rate enjoy all the advantages of a post-graduate course.

We have thus endeavored to give a sketch of the views of an unbiased and highly intelligent student of a subject which is of the greatest import to the future of medicine in this country, and it is a pleasure to offer them to our readers' notice, embracing as they do a plan so well matured, so comprehensive, and so far in advance of the present system that they cannot fail, whether adopted or not, to have an important bearing upon the great movement now in progress. The public will hardly be content with the abstract of these lectures now in circulation, but will demand their publication in full.

MEDICAL NOTES.

— The question of the propriety of allowing the names of respectable practitioners to appear in public print as indorsements in business circulars has been taken up sharply, and we think with justice, by the Chicago Medical Society. An optician having appended to an advertisement the names of a number of prominent medical men judiciously intermingled with the usual accompaniment of clergymen and homœopaths, the following resolutions were passed: —

(1.) *Resolved,* That the Chicago Medical Society considers this advertisement an offense to the honor and dignity of the medical profession.

(2.) *Resolved,* That the secretary be instructed to notify these physicians that their names are being used in this advertisement, and request an explanation.

There are, undoubtedly, cases where names of medical men could with propriety be appended to an advertisement, but these are rare, and the custom is one liable to great abuse.

— The *Mouvement Médical* says Professor Lister has demonstrated before the Paris Academy of Medicine that the exsanguine condition of limbs when in an upright condition is not produced by a simple mechanical, but by a reflex action, caused by muscular contraction of the arteries, which is excited by the depletion of the veins.

— Mr. Richard Davy, of Westminster Hospital, compresses the common iliac artery by introducing a straight lever of wood into the rectum. One end is applied to the artery between the lumbar bodies and psoas magnus muscle, the other protrudes as a handle. By depressing the latter, the perineal tissues acting as a fulcrum, the common and internal iliacs can be so effectually controlled that Davy believes the method easier and more reliable than compression of the aorta, and thinks that by this method the circulation is thus less disturbed. With proper care there need be no injury of the rectum.

—M. Pouchet, after extended experiments, concludes that the constituents of the blood are not altered after removal of the spleen. He states that the elements of the blood are renewed at the expense of themselves, or from elements which are normally stored up for them by the lymphatic system. Malassez and Picard assert that excision of the spleen causes a loss of blood-corpuscles and hæmoglobin.

— A movement has been set on foot in Glasgow by Dr. Duncan and others with a view of establishing a hospital on "the south side." This district contains two hundred thousand inhabitants, and is inconveniently far from existing hospitals.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. THORNDIKE.

[REPORTED BY S. W. FRENCH, HOUSE SURGEON.]

CASE I. *Dislocation of Semilunar Cartilage; Synovitis; Recovery.* — Patient, male, aged thirty-one, fisherman. One week before entrance, while walking, his leg suddenly bent under him, and he found he could not rise or extend his leg. The knee became swollen, painful, and tender. It was treated by a practitioner on the coast, who, after a week's trial of the usual remedies, advised his removal to the hospital, frankly acknowledging his ignorance of the case. On entering, the leg was in a semiflexed position. Knee was hot, painful, and tender, with considerable effusion into the joint. It could not be extended, but could be flexed, with pain, however. The semilunar cartilage on inner side could be felt extending out. The diagnosis of dislocation of the semilunar cartilage was made, and under ether Dr. Thorndike gave flexion and then forcible extension, turning the foot from side to side, and the cartilage snapped into place. Ham-splint applied, and leg fully extended. Patient remained in the hospital two months after this, and suffered intensely from acute synovitis. On leaving the effusion had subsided. as well as the pain and tenderness. The ham-splint he had omitted for a few hours, but it was thought better to counsel him to wear it a few weeks longer before its removal for good.

CASE II. *Recurrent Dislocation of Semilunar Cartilage; Disorganization of Knee-Joint; Amputation; Recovery.* — Patient, male, aged forty-three, ship-rigger. First had trouble in knee six years ago, when, being in the cross-trees, kneeling, he tried to rise, and could not extend the leg, and was obliged to be lowered to the deck. After a time the knee went into place, but he was laid up with a swollen, painful knee for six months. He was at work but a short time when the same accident happened to him again, and even a third time. His knee commenced to increase very much in size two years after these accidents. He had but little use of the leg. On entrance, there was a large effusion into the joint; the patella was pushed to the outside; there was thickening of the head of the tibia; when the leg was extended the foot and leg were thrown to the outside; internal ligaments relaxed; unable to walk without the knee bending under him; a floating body found in the joint. Specific history. Mitral systolic murmur. During the next three months the knee was tapped twice, fifteen ounces of fluid being drawn, and iodine was injected to no purpose. Amputation was recommended and consented to as an operation of expediency. Amputation above the condyles by Lister under ether — Cardew's method. Knee-joint found filled with pus. Cartilages on condyles of femur roughened, and in spots wanting. Bone porous and enlarged. Head of tibia enlarged and hollowed out. Synovial membrane thickened. Pieces of cartilage loosened and floating. Union for two thirds extent by first intention. Secondary hæmorrhage in five days. Lister omitted. Stump entirely healed in six weeks. Symptoms of cystitis came on in ten days. Nausea, dimness of vision, diarrhœa, diminution in the amount of urine. œdema of leg, slight ascites followed. Albumen one fourth per cent., but the urine being highly alkaline no casts could be seen. Œdema of the lungs took place, and a steam bath being given all renal symptoms subsided. A reëxamination of the urine gave granular and hyaline casts. The stump is now entirely healed, there having been for some time two fistulous openings. Patient is improving fast. This case is interesting from its antecedent history, as being to all appearances that of a recurring dislocation of the semilunar cartilages of the knee, followed by a degeneration of the joint; the syphilitic diathesis possibly being an important factor in its advancement. In respect to the renal symptoms it might be mentioned there were none before the operation, and therefore, the attention not being called to the kidneys, an examination of the urine was carelessly omitted. The long convalescence of this case and the almost fatal result will serve as a gentle reminder always to look to the kidneys before a capital operation.

Case III. *Compound Fracture of Inferior Maxilla; Separation of both Superior Malliæ from their Attachments; Fracture of Right Malar Bone; Death.* — Patient was knocked down and run over by a heavily laden beer cart. Examination by Dr. Thorndike showed a fracture of the inferior maxilla at the second bicuspid on the left side, also at the angle on the right side, with considerable laceration of the soft parts; the right malar bone broken; the right superior maxilla was separated from its fellow and other attachments; the left superior maxilla was also somewhat movable; the nasal bones were crushed, and the nose turned to the left. There was a ragged wound on the right cheek extending into the mouth near the angle of the jaw. Every breath caused a puffing out of the right lower eyelid. Considerable hæmorrhage from the nose. Ether could not be given owing to the great difficulty of breathing. The fragments of the inferior maxilla were wired together, and the rest of the face moulded into place, and a broad strip of plaster was carried under the chin and over the head, which kept the jaw in good position. External wound closed by wire sutures. On the following days, the patient not being able to retain liquid in the mouth, and swallow, he was fed through an elastic catheter passed into the œsophagus through the mouth, and a mixture of egg, beef tea, milk, and brandy were pumped in with a Davidson's syringe. Nutrient enemata also were used. It would have been better to have passed the catheter through the nose, but both nostrils being plugged with clots, and the broken bones filling up the passage, it was not thought advisable to give the man so much pain, and also endanger a disturbing of the clots, and hence a recurrence of the hæmorrhage. One week after his injury he became delirious, and died twenty-four hours after his delirium commenced. No post mortem permitted.

LETTER FROM NEW YORK.

During the summer just drawing to a close the health of this city has been on the whole remarkably good, and the death-rate quite low for New York at this time of the year. This is, no doubt, to be attributed mainly to three things: the weather, the improved sanitary condition of the city (though there is still, alas, much to be desired in this respect), and the special efforts that have been made by the health authorities and other agencies (and which have been more widely extended this year than ever before) to diminish the mortality from diarrhœal diseases among the young.

At the meeting of the Board of Health, held August 20th, Dr. E. H. Janes, assistant sanitary superintendent, who had the direction of the work, presented his report of the service of the temporary visiting corps of physicians who were appointed in July. This is the third year that the experiment has been tried of employing a special body of fifty assistant sanitary inspectors to make a thorough house-to-house visitation of all the tenement districts in the city, for the purpose of looking after the health of infants and young children, and, so far as its results can be appreciated, it has been a most successful one. It is an undoubted fact that in all three summers the death-rate at the conclusion of the few weeks' service of the visiting corps has been very markedly smaller than it was at its commencement. I have not the figures for the season of 1876 at hand, but in 1877 the number of deaths of children under five years of age, reported during the week ending August 11th, showed a decrease of no less than one hundred from the week preceding, and the number reported during the week ending August 18th was still smaller. During the week ending July 21st, among children under five years of age, there were two hundred and eighty-five deaths from diarrhœal diseases, but after that time there was a continued diminution until the week ending August 18th, when the reported mortality among the same class of children and from the same class of diseases was one hundred and sixty-eight. This diminished death-rate occurred notwithstanding the fact that the weather was considerably hotter after the work among the children was commenced than it had been before. During the week ending August 18th the physicians were discharged, and in the week following the number of deaths in the city began to increase again, running up to five hundred and ninety-six (an increase of forty-three over that of the preceding week). During the week ending September 1st the mortality was further increased to six hundred and forty-four.

Perhaps two or three brief extracts from Dr. Janes's report of last year may be of interest here: "In the capacity of sanitary missionaries the corps of extra inspectors visited from July 18th to August 14th, inclusive, 23,566 houses, and 131,573 families, treated 4719 cases of disease, and distributed 5128 excursion tickets for the Floating Hospital of St. John's Guild. As these appointments were not all made on the same day, the average number of days occupied in the service was twenty-seven, making an average of about ninety-four visits per day for each visitor. The greater portion of sickness, of course, was found in the crowded tenements of the most thickly populated wards, — a condition inseparable from this class of dwellings as at present occupied; for wherever there is density of population, there is a proportionate amount of sickness, not only from the fact of there being large numbers of people within a given area, but overcrowding almost always implies poverty, want of proper food, neglect of cleanliness, increased amount of refuse, imperfect removal of excreta, and various other conditions, the effect of which is to poison the atmosphere and contribute largely to infant mortality.

"This system of house-to-house visitation is undoubtedly attended with many advantages to the poor. Depending on the various dispensaries for medical relief, either delicacy or indifference frequently induces them to neglect sending for a physician until disease is too far advanced to admit of further delay, and when at last application is made for medical relief, it may be at a late hour, when the dispensary is closed for the day, and another night must pass before the services of a doctor can be obtained, the disease meanwhile making progress, and the chances of recovery lessening in proportion to the delay. On the other hand, by visiting from house to house many cases of sickness are found in their incipiency, and by judicious and timely treatment much suffering is prevented, and doubtless many lives saved."

In his report this year Dr. Janes says: "The term of service for which the temporary visiting corps had been employed terminated on the 9th of August, having extended over a period of five weeks (about a week longer than last year), the work summing up as follows: —

Tenement-houses visited	25,217
Families visited	152,062
Cases of sickness treated	4,821
Excursion tickets for the Floating Hospital of St. John's Guild distributed	2,968

"They also distributed a large number of circulars, printed in the English and German languages, giving plain instructions in matters pertaining to the care of children, accompanying these with all necessary explanation and advice. . . . . The comparatively small number of deaths is doubtless due to the fact that most of the cases were seen early enough to prevent disease making any serious inroads into the constitution; while, on the other hand, many of those that died had been without medical treatment until found by some member of the visiting corps in the last stages of diarrhœa or cholera infantum." There can be but little question that the most important benefit resulting from such a service as this is that very many cases of diarrhœal trouble among young children are thus detected, and put under appropriate treatment, long before the ignorant mothers would ever think of consulting a medical man. By the time that they ordinarily awake to the fact that there is any danger to their little ones, the case has most probably reached a stage where a fatal termination is almost inevitable. In many instances a little judicious advice in regard to the diet and the general management of the child is all that is necessary.

During the week ending July 27th of the present year there were 732 deaths reported in this city (258 of which were among children under five years, suffering from diarrhœal diseases), but in the week following only 586, a decrease of 146, and a decrease of 64 as compared with the corresponding week of last year. The number of deaths which occurred during the week ending August 10th (the last week of the house-to-house visiting service) was 579, which is 109.8 below the average number of deaths of the corresponding weeks of the past five years, and represents an annual death-rate of 27.75 per one thousand living, the population estimated at 1,084,925, which is certainly a very fair showing, at this time of the year, for New York, cursed as it is with such a dense and wretched tenement population. The visiting service demonstrated very conclusively the remarkable immunity from infectious and contagious diseases, with the exception of whooping-cough, which the city at present enjoys.

In his report Dr. Janes thus alludes to the Floating Hospital: "The liberality with which excursion tickets were supplied by the managers of the Floating Hospital of St. John's Guild resulted in great benefit to the little sufferers, who for a brief time were thus enabled to enjoy the fresh air as a relief to the painful monotony of their every-day lives. It is the testimony of all who had the opportunity of witnessing the effect of these excursions upon the children, that they constitute an invaluable aid in preserving the health and strength of these little ones." One can hardly doubt that in the absence as yet of any extended means for removing the sick infants of the poor from their wretched homes for a longer period, these excursions for a few hours on salt water are of very essential service, and deserve the hearty support of the community. Owing to the difficulty of raising money this year, the trips of the Floating Hospital were not commenced until quite late, and only two are made each week, instead of three, as formerly. On each excursion from eight hundred to a thousand mothers and children are taken out, and the average cost of each is about two dollars and a half.

Among the other agencies which have been doing an excellent work for the children of the poor this summer should be mentioned the *Evening Post* and St. Mary's Free Hospital for Children. By means of their "fresh air funds" a large number of those old enough to be separated from their parents have enjoyed the benefit of a fortnight or longer in the country. That of the *Evening Post* has been under the official management of the Rev. Wm. Parsons, and he informs me that thus far he has sent 1023 children from the tenement-houses of New York to the pleasant and healthful homes of the farmers along the line of the Erie Railroad, who have most generously and hospitably opened their doors to them. One very notable feature about this admirable work is that such a great amount of good can thus be done at a very insignificant expenditure.

The only case of yellow fever as yet reported in New York has just terminated fatally at quarantine, whither the patient was conveyed a few days since. He came from New Orleans, and the disease developed during his journey to this city.

Commissioner Allan Campbell, of the Department of Public Works, has issued his report for the quarter ending June 30th, and in it are some interesting matters in regard to the water-supply of the city. While the annual inspection of the interior of the aqueduct was being made, in May, the water was shut off for seventy-six hours, during which time the reservoirs in Central Park were drawn down seven feet three inches, showing a daily consumption of eighty-five million gallons of water. With the advent of the extremely warm weather the consumption increased to ninety-eight million gallons on June 29th. The present aqueduct is now taxed to its utmost capacity to deliver sufficient water for the daily supply, and at times the consumption exceeds the quantity delivered by the aqueduct. Mr. Campbell is, therefore, of the opinion that another large aqueduct should be constructed from the Croton Basin; but in view of the enormous expenditure necessary for such a work (at least twelve million dollars), and the present deplorable financial condition of the city, he thinks it would be better to postpone this just now, and as a temporary substitute recommends the utilizing of the waters of the

Rye Ponds, near White Plains, in West Chester County. These have an area of two hundred and ten acres, and by an outlay of one million two hundred and fifty thousand dollars for building dams, etc., an additional daily supply of ten million gallons of water could be secured to the city.

On the 18th of August Dr. Benjamin R. Robson, the oldest member of the New York County Medical Society, died, in the ninety-third year of his age. He was one of the original incorporators of the society in 1806, and was also its treasurer for many years. P. B. P.

SHORT COMMUNICATIONS.

OBITUARY.

Dr. Edward Warren was the youngest son of Dr. John Warren, of Revolutionary memory, and nephew of Gen. Joseph Warren, M. D., who fell in the battle of Bunker Hill, June 17, 1775. His mother was daughter of George Collins, of Newport, R. I.

Dr. Edward Warren was primarily educated in the Boston Latin School. He entered Harvard College in 1822 and graduated in 1826. He studied medicine with his brother, the late Dr. John C. Warren, graduated with high honors from the Harvard Medical School in 1829, and then finished his professional education by studying a year in Europe. Thus prepared in the highest manner for the work he had undertaken, he entered on its active sphere in Boston with an earnest love for it, and conscientiously feeling the responsibility of the work that lay before him. Here he labored diligently and successfully until 1840, when, preferring the country, he removed to Newton Lower Falls, where he practiced for about fifteen years. Afterwards he spent the remaining winters of his life in Boston.

In 1835 he married Caroline Rebecca, daughter of Prof. Henry Ware, Sen., of Cambridge, and sister of Dr. John Ware, of Boston. This happy union continued until her death, in 1869. They had no children.

He was for many years a devoted member of the Boston Natural History Society, and of the Boston Society for Medical Improvement, and a member and councilor of the Massachusetts Medical Society.

Throughout his life he was a diligent student, and he became an accomplished scholar. He was a writer of great value in the *New England Quarterly Journal of Medicine and Surgery, American Journal of the Medical Sciences*, and other medical journals. Among his articles were a Sketch of the Progress of the Cholera in 1852, Remarks on Stammering, After Pains succeeding Labor, Ergot, etc. Dr. Warren wrote three prize dissertations, on Scrofula, Rheumatism, and Erysipelatous Inflammation. These were published in Philadelphia in 1840. He wrote an admirable life of his father, the first Dr. Warren, and likewise the life of his brother, the late Dr. John Collins Warren. In 1855 he visited Europe and there spent a year with his wife.

He was a warm friend of humanity, and actively interested in the moral condition of the poor. He found ample, and to him very pleasant, opportunity to gratify this feeling by connecting himself with his friend, Rev. Mr. Winkley, minister at large in Boston, and became a visitor to the poor in the later winters of his life. Here he found an open field for his sympathies, and was a very acceptable friend to these people in his new and charitable calling.

In May, 1877, he had a slight paralytic attack, yet he went about and enjoyed life among his friends, and still contributed to their happiness. He continued his studies and his attentions to his farm. In May, 1878, he failed rapidly, and on the 23d closed his useful life at the age of seventy-three. E. G.

CURARE IN HYDROPHOBIA.

Mr. Editor, — In your interesting article of last week upon hydrophobia some general conclusions are presented upon the action of curare upon the organism. In my studies in physiology and pathology during the last few years I have often observed a varying action from the same dose of curare which did not depend upon the quality of the drug. The period of paralysis in different frogs after the same amounts of the drug varies within wide limits, and repeated administration of the same dose of curare to the same frog on successive occasions by no means indicates the same duration or completeness of paralysis. In winter, when the circulation in the frog is considerably reduced, the period of action of the curare is somewhat prolonged.

In *cats* the action of curare is far more evanescent than in frogs. Half-grown kittens were the subject of experiment. A large dose (amount not positively determined) was absorbed from the cellular tissue, and began to demonstrate its presence in the circulation in about ten minutes. It caused great uncertainty in walking, frequent falls, and a general appearance of discomfort, but not of actual pain, which lasted about fifteen minutes and subsided quite rapidly. Repeated injections produced no further result, and the kitten recovered readily and perfectly.

The quality of the drug is subject to great variation, some specimens being almost worthless. I have obtained most satisfactory results from solutions of that solid extract which presented a brittle fracture and were of a glistening, dark-brown color. The most useful form for subcutaneous use seems to be a solution of all portions of the drug in distilled water. A sediment is deposited, which need not be disturbed in using the solution. A dose of such a solution, containing from 0.0075 to 0.01 gramme of curare, will generally prove sufficient for an ordinary speckled frog. This is about one sixth the maximum dose given in the case of hydrophobia reported in the last JOURNAL, and the question arises, Would not the human system bear a larger amount of the drug? Its rapid elimination would seem to call for frequent repetitions of the same dose in order to insure its continued action.

Yours truly, ALBERT N. BLODGETT.

SPLENOTOMY.

CAMP CŒUR D'ALENE, I. T., *August* 13, 1878.

MR. EDITOR, — In the article on Recent Progress in Surgery in your issue of June 27, 1878, page 841, under the heading of Splenotomy, the writer refers to Dr. Martin's recent case, and the reader is left under the impression that previous to this case there had been nine operations with only three recoveries. Dr. Otis, in his great work, the second surgical volume of the Medical and Surgical History of the Rebellion, page 152, has tabulated twenty-six (26) operations of splenotomy. In the twenty-six cases "partial or complete removal of the spleen was undertaken sixteen (16) times on account of traumatic lesions, ten times on account of cystic, hypertrophic, or other pathological alterations. There is the surprising result that the cases of the first group, without exception, terminated favorably. Of the pathological cases, four recovered and six died."

GEORGE M. KOBER, M. D., *Act. Assist. Surgeon, U. S. A.*

ARMY MEDICAL BOARD.

FOR the benefit of those desiring to enter the service we print below a "memorandum" issued by the War Department, containing all the information an applicant might wish to know. We understand that an army medical board will be in session in New York during the months of October and November, and that there are eleven vacancies in the corps. Young men who are qualified will find this a good opportunity, as they will secure immediate employment and appointment.

[EXTRACT FROM LAWS OF THE UNITED STATES.]

ACT OF CONGRESS, *Approved* JUNE 30, 1834.

"SECTION 1. *Be it enacted, etc.*, That from and after the passage of this act, no person shall receive the appointment of assistant surgeon in the army of the United States unless he shall have been examined and approved by an army medical board, to consist of not less than three surgeons or assistant surgeons, who shall be designated for that purpose by the Secretary of War, and no person shall receive the appointment of surgeon in the army of the United States unless he shall have served at least five years as an assistant surgeon, and unless, also, he shall have been examined by an army medical board constituted as aforesaid."

ACTS OF CONGRESS, *Approved* JUNE 23, 1874, and June 26, 1876.

"SECTION 4. That the medical department of the army shall hereafter consist of one surgeon-general, ... one assistant surgeon general, ... one chief medical purveyor, four surgeons, with the rank, pay, and emoluments of colonels, two assistant medical purveyors, ... eight surgeons, with the rank, pay, and emoluments of lieutenant-colonels, fifty surgeons, with the rank, pay, and emoluments of majors, one hundred and twenty-five assistant surgeons, with the rank, pay, and emoluments of lieutenants of cavalry for the first five years' service, and with the rank, pay, and emoluments of captains of cavalry after five years' service." . . . .

All candidates for appointment in the medical corps must apply to the Honorable Secretary of War for an invitation to appear before the medical examining board. The application must be in the handwriting of the candidate, stating age and birthplace, and be accompanied by testimonials from professors of the college in which he graduated, or from other physicians in good repute. Candidates must be between twenty-one and twenty-eight years of age, and graduates of a medical college, having a thorough and complete course of medical education — evidence of which must be submitted to the board before examination.

The morals, habits, physical and mental qualifications, and general aptitude for the service of each candidate will be subjects for careful examination by the board, and a favorable report will not be made in any case in which there is a reasonable doubt.

The following will be the general plan of the examination : —

(I.) A short essay, either autobiographical or upon some professional subject — to be indicated by the board.

(II.) Physical examination. This will be rigid, and each candidate will, in addition, be required to certify "that he labors under no mental or physical infirmity, nor disability of any kind, which can in any way interfere with the most efficient discharge of his duty in any climate."

(III.) Oral examination on subjects of preliminary education, general literature, and general science. The candidate must satisfy the board in this examination that he possesses a thorough knowledge of the branches taught in the primary schools, and a failure to show this will end his examination.

Oral examination on scientific subjects will include chemistry and natural philosophy, and that on literary subjects will include English literature, history of the United States, and general history — ancient and modern. Candidates possessing a knowledge of the higher mathematics, the ancient and modern languages, will be examined therein, and due credit given for a proficiency in any or all of these subjects.

(IV.) Written examination on anatomy, physiology, surgery, practice of medicine and general pathology, obstetrics, and diseases of women and children. Oral examination on these subjects, and also on medical jurisprudence, materia medica, therapeutics, pharmacy, toxicology, and hygiene. Few candidates pay the attention to hygiene which it deserves : it is made an important subject in this examination.

(V.) Clinical examination, medical and surgical, at a hospital.

(VI.) Performance of surgical operations on the cadaver.

The board will deviate from this general plan whenever necessary, in such manner as they deem best to secure the interests of the service.

The board will report the merits of the candidates on the several branches of the examination, and their relative merit in the whole, according to which the approved candidates will receive appointments to existing vacancies, or to vacancies which may occur within two years thereafter.

An applicant failing one examination may be allowed a second after one year, but not a third.

No allowance will be made for the expenses of persons undergoing examination, as this is an indispensable prerequisite to appointment, but those who are approved and receive appointments will be entitled to transportation on obeying their first order.

(Signed) GEORGE W. MCCRARY, *Secretary of War.*

WAR DEPARTMENT, *January* 1, 1878.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. VIII.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, *August* 31, 1878.

NEW ORLEANS — During the week ended yesterday noon there were 1204 cases of yellow fever and 333 deaths, making in all 2877 cases and 867 deaths. During the twenty-four hours to noon yesterday there were 169 new cases and 59 deaths.

VICKSBURG. — During the week ended yesterday evening there were 116 deaths from yellow fever, making 185 deaths in all, 17 of which occurred during the last twenty-four hours. It is estimated that eight hundred cases of fever have occurred to date, about half of these in the past week, and 59 new cases in the last twenty-four hours. Dr. Booth, in charge of the patients of the marine hospital service, died the 27th.

MEMPHIS. — Seven hundred and twenty-one cases of yellow fever and 241 deaths for the week ended August 29th.

MORGAN CITY, LA. — The refugee reported last week sick of yellow fever died August 23d. Seven other cases have since occurred, and four deaths in all to yesterday noon.

BAY ST. LOUIS, LA. — One death from yellow fever occurred the 18th inst.

OCEAN SPRINGS, MISS. — Three cases of yellow fever occurred yesterday morning. No deaths during the week.

WATER VALLEY, MISS. — Two cases of yellow fever, both refugees; the first occurred on the 12th and is convalescent; the second on the 26th, which terminated fatally yesterday.

HOLLY SPRINGS, MISS. — Seven cases of yellow fever and two deaths to yesterday evening, — all refugees. Good health in the city and the United States military camp.

LEIGHTON, ALA. — A refugee from Memphis arrived August 18th and died of yellow fever August 24th.

ST. LOUIS. — Eight cases of yellow fever during the week and two deaths, all refugees. At quarantine, below St. Louis, there were six new cases and one death, besides twenty doubtful cases admitted during the forty-eight hours ended yesterday evening.

CAIRO, ILL. — A river boatman from Memphis died of yellow fever August 24th.

LOUISVILLE. — Since last report eleven refugees and boatmen have been attacked with yellow fever after arrival in Louisville, four of whom have died.

CINCINNATI. — Nine cases of yellow fever — five from steamboat Golden Rule — and four deaths have occurred since last report. Two of the deaths were the cases reported last week. All came from infected places south.

WHEELING, W. VA. — Case reported through the *Press* on the 28th officially pronounced not yellow fever.

PITTSBURG, PA. — A deck-hand on the steamboat John A. Porter arrived August 25th, and died next day of yellow fever.

PHILADELPHIA. — Two cases of probable yellow fever occurred August 24th, the persons having arrived from Vicksburg a few hours previously. They were immediately removed to the hospital for infectious diseases.

HAVANA. — Seventy-one deaths from yellow fever and six from small-pox during week ended August 24th.

CLIFTON, ENGLAND. — The United States consul at Bristol, England, reports a severe outbreak of enteric (typhoid) fever at Clifton, near that place, which had been traced to the use of milk from a farm where the pump is five yards from the privy vault. Previous to the outbreak a young lady had been carried to the farm-house to complete her convalescence from enteric fever. A wholesome lesson is given in the action of the medical officer of health, who notified the farmer that if he let any member of his family use the contaminated pump water and disease arose from it, or if he sold any milk and disease arose from it, he would lay information against him of having committed manslaughter.

TRIESTE, AUSTRIA. — Some cases of the plague have occurred at Trieste. Advices to August 17th.

No reliable information received from Key West, and no official reports obtained from Grenada, Canton, and Port Gibson, Miss., and Port Eads, La.

Reports from other places indicate good health.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 24, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	519	24.69	23.42	28.71
Philadelphia.	876,118	283	16.80	18.80	21.54
Brooklyn.	549,438	253	23.94	21.51	25.50
Chicago.	460,000	195	22.04	17.83	22.39
Boston.	375,476	149	20.63	20.10	24.34
Providence.	100,000	30	15.60	18.81	19.20
Lowell.	55,798	22	20.50	19.09	22.50
Worcester.	54,937	18	17.05	20.06	22.30
Cambridge.	53,547	22	21.36	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	16	23.43	20.42	19.67
Springfield.	33,981	15	22.97	16.02	19.77
Salem.	27,140	20	38.31	20.38	21.15

Correction. — In the number of August 22d, page 257, line 20, for George *W.* Gay read George *H.* Gay.

New Hampshire Medical Society. — The Fellows of the New Hampshire Medical Society, with ladies and friends, will hold their seventh semi-annual meeting and excursion at the Appledore House, Isles of Shoals, on Tuesday and Wednesday, September 10th and 11th. The officers of the society are: President, A. F. Carr, M. D., Goffstown. Vice-President, T. J. W. Pray, M. D., Dover. Secretary, G. P. Conn, M. D., Concord. Treasurer, L. B. How, M. D., Manchester. Anniversary Chairman, F. A. Stillings, M. D., Concord. Committee of Arrangements: Drs. J. W. Parsons, Portsmouth; M. C. Lathrop, Dover; H. B. Fowler, Bristol; William Child, Bath; R. A. Chittenden, Plaistow; M. W. Russell, Concord; D. S. Adams, Manchester; A. B. Hoyt, Grafton; E. F. McQuesten, Nashua; A. C. Whipple, Ashland; William Waterhouse, Barrington; C. W. Tolles, Claremont.

Those residing on the line of the Boston, Concord, and Montreal Railroad will purchase tickets of the conductors to Concord and return for fare one way, and at Concord buy tickets to Portsmouth and return for two cents per mile each way, which is the rate over the Concord and roads under its management.

On the Northern, and roads under its management, conductors will sell tickets to Portsmouth and return at the same rates. Tickets will be found for sale at Concord and Manchester, and at other places on the line they can be bought of the conductors at the same rate.

Trains leave Concord at 7.30 A. M. and 3.30 P. M., connecting with the boat at Portsmouth.

Tickets can be bought the 9th and 10th, good to return the 11th and 12th.

Return tickets will be issued over the Eastern road. Trains leave Boston over this line at 7.30 and 8.30 A. M., and 3.15 P. M.

Programme: The meeting being designed to be social in its character, no papers will be read.

Dinner will be served at 2.30 P. M., after which for a short time the company will be under the direction of the anniversary chairman, Dr. Stillings, of Concord. In the evening there will be a social reunion in the parlors of the hotel. Good music has been engaged for the occasion.

G. P. Conn, *Secretary.*

Concord, *August* 28, 1878.

THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIX. — THURSDAY, SEPTEMBER 12, 1878. — NO. 11.

LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. VIII.

BY DAVID W. CHEEVER, M. D.,
Professor of Clinical Surgery in Harvard University.

Wounds of the Scalp. — GENTLEMEN: These two little boys, one aged five the other eleven years, both have scalp wounds. I wish to show them to you in comparison with the more serious case upon which I operated a few days ago. The children came in at different times, each having a lacerated wound, the result of accident. The elder boy was injured some days before the other, and his wound is granulating and nearly closed. In the younger child the injured part is still in the stage of suppuration, but there is no burrowing. In both cases the wound reached the bone, but with the probe I find that in the suppurating case the bone is covered. The younger patient entered the hospital a few days ago with persistent headache, but under good care there has been no extension of the suppuration, and the headache has disappeared. Both boys are now doing well, and show the beneficial effects of the early care which in these cases is so necessary. In the case of the other day you saw the result of neglect of the wound while it was still fresh. You will recall that during the operation upon that patient I said there was a probability that the inflammation would spread through the vascular bone and dura mater to the brain. This course of events is what actually followed, and in about seven days the boy died of meningitis without much effusion.

The children before us are improving so rapidly that I suppose they will recover, yet either boy, especially the younger, might get cold before the wound had thoroughly cicatrized, and so increase the inflammation, which might perhaps lead to serious results. It is an axiom in surgery that no wounds on the head, whether of scalp or bone, and particularly the latter, can be considered trivial. Consequently it will not do to say that victims of scalp wounds are out of danger until the injury has become entirely healed. This is especially true of children.

Internal and External Hæmorrhoids. — This man, aged sixty, has called at my office several times to complain of pain in the rectum and hæmorrhage at stool. I advised him to enter the hospital. The question is as to the diagnosis. We are probably safe in saying that the trouble is confined to the rectum, and it might be fissures, fistulæ, or stricture. But the frequent hæmorrhages make me suspicious that the blood comes from enlarged hæmorrhoidal veins. What I propose to do first is to examine the rectum with my finger, in order to see what can be learned by that means. I find the bowel large and healthy. Within a half inch of the anus are pendulous masses, which begin to appear when the patient forces down the bowel by straining. Beyond this first half inch of the rectum no other trouble is apparent. At this stage of the examination I think it a good plan to dilate the sphincter muscle in order to get a look at the piles. In the female we have a better opportunity of accomplishing this by introducing a finger into the vagina, and pushing the hæmorrhoids down through the anus. In the male we have to work in the rectum alone. By rupturing the sphincter muscle in a case like this, we not only see the hæmorrhoids much more readily, but we spare the patient the severe pain which otherwise would arise from the effect of an operation. By means of the thumbs it is easy to rupture this muscle. I showed you the method a few days ago. The thumbs are to be thrust into the anus as far as their first joint; then, with the fingers on the tuberosity of the ischium of either side, the thumbs are slowly but forcibly separated until the muscular fibres are torn apart, and, as in our patient, the hæmorrhoids are seen coming down. Dr. Van Buren, of New York, was, I believe, the first to describe this method. Apparently we have here two classes of piles, and a very perfect illustration of each. Around the anus are the external variety, namely, the purple and dilated hæmorrhoidal veins, which, at the junction of skin and mucous membrane, have become hard and organized. Within this hardened circle are bright red masses, somewhat excoriated, which formerly were above the sphincter muscle. These are the internal piles which have prolapsed since I ruptured the sphincter. They are fed partly by arterial blood. In the centre of this double mass of purple and scarlet is the opening into the bowel. The experience of the patient has been that, whenever his bowels were moved, straining forced down the piles, which, as you now see, bled at points. In one locality I find a solid body; this is a venous pile which has become filled with a thrombus or a hardened clot. Now in treating this case there are three methods of procedure, either one of which we may adopt, namely, cauterization, the knife, or the ligature. The treatment proposed by Allingham, of London, will probably be the most advantageous in this case, and is a combination of incision and ligature. If we use the latter alone the patient is subjected to great pain, and the separation is very slow. On the other hand, if we cut between the skin and the mucous membrane, in a direction parallel with the bowel, and then apply the ligature, there is much less pain, and the tumor separates easily. This is the Allingham method. After this operation upon internal hæmorrhoids a T bandage should be applied over sponges, the patient kept in bed, and opium given to prevent stools. In spite of the opium the bowels are sometimes opened. In such case do not resist nature, but give an injection of olive oil. In beginning the operation upon this patient, let me remark that it is important not to cut away too much of the true skin. If we do the cicatrix will contract, and prevent easy opening of the bowels. First, then, I make an incision, and freely dissect the skin from the mucous membrane. I have now dissected out two large masses, which I think may be included in one ligature. I find, too, that one of these masses is the internal, and the other one of the external piles. The rupture of the sphincter and prolapse of the mucous membrane have virtually converted the two masses into one. Incising lightly the mucous membrane around the mass, I apply the ligature in this incision, tie it firmly, and leave the ends hanging out. The mass has already begun to whiten, and if the circulation in the tumor does not entirely cease I shall put on another ligature. Having made one side clear, so soon as the mass separates the skin will fall into folds. We now take the other side and treat it in the same manner. After dissecting up the skin with the knife, you will remark that I complete the dissection with straight scissors. It is an easier method. On this side the mass is too large to be included in one ligature, and hence must be transfixed by a needle carrying a double ligature, each part of which ligates one half of the tumor. I now observe that one of these masses is still too red, and I therefore renew the ligature. I have seen patients put to bed after ligation, notwithstanding the pile showed a red color. This is always a mistake, for the time of separation is thus invariably much prolonged. When the ligature is properly applied it arrests circulation, and the pile has a pale blue color. By following the Allingham method and cutting parallel to the long axis of the bowel, we have now thoroughly enucleated the piles without dividing any of the large vessels. Formerly the directions were to return the hæmorrhoids within the sphincter, leaving the ends of the ligature on the outside. But in our patient this need not be done, for we have ruptured the sphincter, and the ligated masses prolapse by gravitation. The after-treatment has been already mentioned. It is important to keep the parts thoroughly moist. I have therefore adopted the plan of applying a large wet sponge under the pressure of a T bandage. This will supply moisture for twenty-four hours, and we thus avoid disturbing the patient by changing the dressing. If the patient be kept under opium he will probably get along very comfortably. In cases of hæmorrhage what is to be done? The best thing to do is to introduce a sponge, having a string attached, into the rectum, and apply a second under pressure over the anus. If the bleeding persist we must use a styptic, as, for example, the persulphate of iron, although it sometimes excoriates the bowel. The ligatures will separate in from five to seven days. Antiseptic dressings must be used.

Bullet Wound in the Thigh. — This patient was shot while running, the ball entering the back of the thigh and passing downward toward the ham. It has not been extracted. The accident occurred nine days ago. Two days later he entered the hospital. There was then so much swelling and redness that they extended as far down as the popliteal space, and at that time I did not think it well to probe for the ball. One week ago there seemed to be danger of cellular abscess in the track of the bullet, but under the effect of rest and other treatment the inflammation and redness have subsided, and I now propose to search for the bullet. Here is the point of entrance of the ball, but, as you see, there is no place of egress. When the patient entered the hospital there were symptoms of gun-shot wound, — the ragged edges and the slough hanging out of the bullet hole, — but now there is only this smooth, round opening.

Gun-shot wounds, as you know, do not heal by the first intention. This is so rare that a case in which it occurred is related by Larry, the famous surgeon of Napoleon's wars, as the only one he saw in all his experience. In the wound there is often some foreign body, as a bit of wadding or cloth, which has to slough out. The patient showed me his clothing, and I found a valvular piece of cloth which had been cut out by the bullet, but had not entered the wound.

In searching for a ball if we force the probe it is easy to increase the depth of the wound to any distance. We should be careful to avoid this error. My instrument enters about four inches, and does not seem to touch either bone or ball. The latter is probably buried in the muscles of the popliteal space, for I do not find it, and Nélaton's probe, which I am now using, is not marked by the bullet. In fact, the porcelain knob of this probe in my hands has been stained in only a single case. It is not wise to search too long; therefore, as I find nothing, we will put the patient to bed and poultice the wound. The ball may become encysted and remain quiescent for years, or it may burrow about and cause suppuration, in which case we shall have to make a counter opening. But at present there is no reason for doing this. We can only wait the progress of events.

Lumbar Abscess. — This patient has already been brought before you on account of spinal trouble and cold abscess in the course of the ribs. The abscess has been twice aspirated, but in two or three days refilled, and made the patient as uncomfortable as ever. It looks larger than at any previous time. Although the pus was as thick as custard neither of the needle punctures has burst, as I had expected. But, unless it be opened, the abscess is sure to break. Consequently I shall make an artificial opening. With the point of my knife I pick down through the skin at the place of puncture; working in this way in order to examine the sac before I lay it open. I find that the abscess is attached to the muscles, and not to the skin, — a point I wished to decide. Now I make a free opening, and expose a very large cavity. We propose to force out the air, apply a compress, and allow the abscess gradually to discharge.

Case of Suspected Calculus. — This man complains of pain during micturition. He says the act is attended with difficulty, and that his urine is bloody. He has several times visited the out-patient department, and has once been sounded for stone. He took no ether then, and nothing was found in the bladder. I therefore propose to etherize him, and make another trial. There is nothing more deceptive than the symptoms of stone in the bladder, for it is sometimes absent when there is every reason to suppose its existence. A granular and sabulous condition of the bladder will occasionally lead the surgeon to fancy he has touched a stone. While making the examination the position of the patient may be changed. By this procedure the stone, if there be one, will roll about, and thus come in contact with the sound. If we still fail to find it we should tilt the patient's pelvis by placing a pillow beneath the hips. The stone may have lodged behind the prostate gland; canting the pelvis will cause it to gravitate out, and descend to the fundus of the bladder. Sometimes we are aided by filling the bladder with water; in other cases the finger is put into the rectum, and the stone lifted into contact with the sound. Or it may be we do not find it at all.

On several occasions our patient has had gonorrhœa, but there has been no discharge within twelve months. He has also had a fall which injured his back, and may have had some share in causing the cystitis and perhaps formation of calculi. We find albumen in the urine, but no more than may be accounted for by the pus and blood. It is possible that the gonorrhœa has developed a deep urethritis, so that although there is no abnormal discharge from the penis the urine is made purulent. Whether there be any affection of the spine I cannot tell, but if caries has become developed it probably has been one cause of the trouble. The sudden stoppage of the urine may be due to spasmodic closure of the urethra during the act of micturition.

Now as to the instruments used in sounding for stone. Here are two kinds of sounds: one is the ordinary sound of solid steel, smooth, having a long beak, and easy of introduction; the other, which I now show you, is the Thompson sound, and a much better instrument, for it has a short beak, by means of which it is easy to find the stone when it has fallen behind the prostate gland, while a long beak would simply pass over and not detect it. Again, when we wish to upset the beak in the base of the bladder, with a long beak we find it a difficult matter, but easy when we have the short beak of Thompson's sound. So there are several reasons why I prefer it.

In sounding the patient I will first inject water into the bladder. Introducing the sound I detect a roughened condition of the walls of that organ, but I do not find anything else. I now pass my finger into the rectum, but still feel nothing. We now tip up the pelvis by placing a pillow under it, and thus have opportunity to examine the fundus of the bladder. A little blood issues, a result probably of the ulcerated condition of the neck of the bladder, which was caused by old urethritis. With the exception of this and the granular condition of its walls I find nothing abnormal.

Frost Bite. — Our next patient is a colored boy, who is the victim of a frost bite of a fortnight since. The feet are the parts affected. The lad was brought in one week ago in the condition which you now see. The toes show various degrees of injury, from the great toes, which are involved down to the bone, to the small toes, in which the cuticle alone seems affected. Some of them will cover and heal by granulation, but I think it best to remove the distal phalanges of the two large toes. I see the matrix of the nail is intact. I will then split the toe above and below the bone, take out the phalanx, and thus, as far as is possible, save the nail. The bone which I have removed is long and flat. The tissue remaining will make a good stump. In the same manner we now treat the other big toe. The flaps are brought together with plaster.

CASES ILLUSTRATING THE WORK AND DUTIES OF THE MEDICAL EXAMINER.[1]

BY F. W. DRAPER, M. D.

When I received the compliment of an invitation to read a paper on this occasion, it was suggested that a report of cases would be acceptable, illustrating some of the difficulties which a Massachusetts medical examiner meets in the performance of his duties under the requirements of the law of 1877. Acting upon this suggestion, I sought for material adapted to its fulfillment; but while I found considerable evidence that the difficulties described had actually occurred, an impartial scrutiny showed that these mainly grew out of inexperience and maladroitness in a novel field of duty. In truth, Mr. President, this single year's record compels the conviction that the Massachusetts law of 1877 concerning medical examinations and inquests in cases of death by violence presents few and comparatively insignificant defects and difficulties to any one who recognizes the purpose of the statute and means honestly and conscientiously to execute it. I think the testimony will be concurrent that the law has had exceptional and gratifying success as a new and in a measure experimental piece of legislation. After further trial, experience may show that modifications may be made which shall mend without marring; meanwhile our society is to be congratulated that the general disposition at present is favorable to a fair test of this Massachusetts plan.

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[1] Read before the Massachusetts Medico-Legal Society, June 11, 1878.

I shall be pardoned, therefore, if I feel disinclined to make an exposure of my own short-comings as a medical examiner. Let me address myself to a more congenial task. From the records of the year I have selected the notes of three cases which, on account of their somewhat remarkable character, serve to illustrate, not the defects of the new law, but some of its manifest advantages and capabilities of usefulness. These cases are as follows: —

I. Martin C., a robust and vigorous Irishman, thirty-three years old, came to his death under the following circumstances: He arose as usual at half past five o'clock in the morning of September 4, 1877. His wife was sure that she did not hear him complain of any illness at this time, or at any time previously for many months. She left him at home on the morning above mentioned, while she went to market. On her return, at about seven o'clock, he was at breakfast, his meal consisting of boiled eggs, milk, and bread. After his breakfast he went out, for what purpose and to what place his wife did not know. In fifteen minutes he was brought back to his house by two men who were strangers to Mrs. C. These men stated that they had found C. lying in the middle of a street in a locality having an ugly reputation. When they first saw him two men were standing over him, who disappeared on their approach. Their statement in this respect was confirmed by a woman who lived in the neighborhood, and who saw the group from her window, but could not identify either of the parties. No one saw any blows struck or heard any outcry. No one could be found who had seen C. from the time he left his house till the time he was found prostrate in the street. C. himself could give only a confused account of his acts. When asked by the two men who assisted him where his home was, he gave the number correctly, but he was unable to explain his condition or the manner of its occurrence. In the course of other talk, incoherent in character, he said, "Johnny Murray struck me;" but other information was not forthcoming. On his arrival at home he lay down, complaining of pain in his side and in his head. He made repeated allusions to this latter pain. Without being specific about it, his utterances led his wife to believe that he had been assaulted. This suspicion was strengthened by neighborhood gossip, which mentioned names of witnesses of the supposed quarrel, but the witnesses themselves, when interrogated, professed ignorance of the entire affair.

On the day following the alleged assault C. complained still more of his head, and vomiting supervened. Thirty-one hours after he was found in the street a convulsion occurred, and now for the first time medical aid was summoned. More convulsions followed, and in three hours and a half the man was dead.

At the instance of the attending physician I was summoned by the police, the presumption being that in some manner not yet clear this man had met his death in consequence of violence. From all the facts then at hand this presumption was a reasonable one; at all events, the case was clearly one demanding investigation. Accordingly, being duly authorized by the district attorney, I made an autopsy, but not without some difficulty, for the widow and her neighbors were much excited, and, though strong in their belief that the man had been murdered, they were emphatically strenuous against a post-mortem examination.

Externally, the body presented the following appearances: over the angle of the right scapula was an ecchymosis of the size of an old-fashioned copper cent. On the posterior aspect of the right arm near the elbow was another bruise an inch by half an inch in diameter. These were the only signs of wounds which a careful external inspection discovered. The regions of the head and neck were particularly examined, but nothing was found as the result of the alleged beating.

Except some indications of former inflammation of the right lung and pleura, the viscera of the chest and abdomen were normal.

Examination of the head revealed the following conditions: The scalp was healthy in all respects; there was no trace of extravasation or lesion indicating a blow. On removing the calvaria and the dura mater the vascular meninges were found to be hyperæmic, especially so on the right side. Within the middle lobe of the right cerebral hemisphere were two clots: one near the base of the brain, with well-defined outline, and having the size of an English walnut; the other a little higher and more posterior, and of about the size of a filbert. The former of these clots had broken through the gray cortex overlying it, and the hæmorrhage had given rise to a diffused coagulum within the meninges and extending from the base to the vertex. The lateral ventricles and other portions of the brain beside those described presented no abnormal appearance.

The cranium was in all respects normal and entire.

Cerebral hæmorrhage was the certified cause of death.

II. The dead body of Dora A. S., a middle-aged Irish woman of loose reputation, was found lying at full length upon the floor of her kitchen, early in the morning of November 26, 1877. When the body was first discovered, two men were seen standing near in the same room, in excited conference. These two men were at once taken into custody by the police, on suspicion, and the medical examiner was summoned.

On my arrival at the scene, the body was still disposed as it was found; it was lying upon the back, fully clothed. The limbs were straight, and there was no rigor mortis. The surface of the abdomen was still warm. Near the head there was a collection of semi-fluid, dark-colored matter, probably vomitus. Upon the right cheek was a faint ecchymosis. The clothing was soiled by a copious dejection.

Inspection of the room showed much disorder and slovenliness, with some evidences of violence. The table was set with dirty dishes and half-consumed food. In the midst of the dishes was a pint flask containing a few drops of inferior whisky. Two kerosene lamps were on the table: one of these was burning when the body was discovered; the fragments of the chimney belonging to the other were scattered over the table and on the floor. The furniture of the room was disarranged, but none of it was overturned.

Adjoining this kitchen were two sleeping-rooms, the beds in which were much tumbled. On the mattress of one of the beds was a plentiful deposit of dried blood. The furniture in these rooms showed very rough usage.

At an interview with each of the two suspected men at the station-house the following was presented as their version of the affair: The woman had been indulging in a drunken spree during the previous fortnight, obtaining money in various irregular ways and spending it mainly for liquor. One of the men was her paramour; the other was an acquaintance of twenty-four hours whom she had beguiled on the street. This trio, with other parties who happened in, spent the day (Sunday) before the woman's death in a drunken carouse, consuming ale and whisky freely. Late in the evening the paramour went to bed alone, less intoxicated (if I could believe his statement) than his companions. After an interval the other man succumbed, and the woman remained sitting by the table, very drunk. Each of these men persisted in the assertion that they had no quarreling or violence of any kind. The next morning, at seven o'clock, one of them arose and found the woman lying dead on the floor, but still warm. He aroused the other man, and while they were consulting what to do the party was discovered by the rent collector. Both the men stoutly denied any knowledge of the immediate circumstances under which the woman had died, or of the time of her death. The house was in a thickly-settled neighborhood, but none of the neighbors gave any information tending to make the case clear. The character of this locality, however, with the record of the woman and of her companions and the circumstances of her death, so far as they were learned, justified the presumption that violence was an element in the affair; accordingly an autopsy was required and made in farther investigation of the cause of death.

External inspection of the body discovered a number of faint, superficial ecchymoses with indistinct outlines; the largest of these was in front of the right ear, its dimensions being one and a half inches long by three quarters of an inch wide. Small bruises were found above the left nipple, over the sternum, in the bend of the right elbow, on the abdomen midway between the pubes and umbilicus, and on the right knee. None of these appeared to be recent. The external cavities of the body, the mouth, ears, nose, anus, and vagina, contained nothing abnormal. The scalp on dissection presented no mark of injury or disease. The skull was uninjured. The brain and its membranes were injected to a moderate degree; there was no extravasation of blood, meningeal or cerebral.

Except a small surface at the base of the right lung bound down by old pleuritic adhesions, the lungs were of healthy appearance. The trachea and bronchi were normal. The heart was healthy in all respects. The blood was fluid and of dark color.

The kidneys presented the typical appearances of chronic inflammation; they were lessened in size, their cortices were thin, their capsules were removed with difficulty, leaving the surface granular. Their section showed hyperæmia.

The spleen and intestines were normal. The liver was mottled, dense, and injected.

The uterus was enlarged, and its mucous membrane was hypertrophied and congested.

The stomach was the organ presenting the most noteworthy alteration. Its entire mucous lining showed intense hyperæmia, without erosion at any point; these appearances were most marked at the fundus. The minute disseminated ecchymoses were too numerous and too uniformly spread to be accounted for by digestion or by post-mortem changes. The œsophagus was reddened at its lower extremity, but elsewhere it was unaltered.

The contents of the stomach, the blood, the brain, and the thoracic viscera imparted a distinct alcoholic odor.

In the presence of these post-mortem appearances I felt obliged to exclude the element of violence from the cause of death, and to assign to alcohol the principal and immediate blame.

III. Ellen S., thirty years old, a domestic servant in the family of a wealthy and well-known Brookline gentleman, died in Boston, February 5, 1878. She had left her place in Brookline three weeks previously, being at that time somewhat debilitated, and complaining of ill-defined but not severe illness. She declined the urgent offers of her mistress to provide medical attendance and nursing for her, and declared her preference to go to some friends in Boston, to remain till she recovered. These friends were poor in circumstances and in reputation, fond of alcohol and of its exhilaration. Ellen stayed at their house a week without seeking medical aid. She appeared exhausted, had no appetite, suffered some abdominal pain. At the end of the week she went with another girl to the office of a regular physician, who, however, had been charged a long time ago with some irregular practices; she received from him two prescriptions. This medicine was dispensed by a neighboring druggist who retained the recipes. The physician visited her at her house twice subsequently, on the two days following the office call; at his last visit he informed her that she would be sick some time with fever, and advised her, as she had but little money, to enter the City Hospital. This advice she declined to follow, and he did not see her again.

Through the next five days following this last medical visit Ellen had no physician, but at the end of that time she grew suddenly and alarmingly worse, her symptoms being chills, exquisitely painful abdominal swelling, high fever, vomiting, and great thirst. An irregular practitioner was now called in. He was struck at once by the swollen belly, and, without any vaginal examination, charged his patient with pregnancy, — a charge which she denied. Then, learning that Ellen had a lover who had recently given her some money, and that she had consulted Dr. ——, he persisted in his suspicion that he had a case of criminal abortion on his hands, though there was no hæmorrhage or lochial discharge, and a physical examination was not had. He conveyed his suspicions to the late mistress of the girl, and occasioned considerable excitement in that lady and in her family. Meanwhile, the patient sank, and died in great distress, and without having at any time or to any person, so far as could be learned, acknowledged any facts giving color to a suspicion of wrong practices, yet dying under conditions that might be, and were, readily formed into a basis for the presumption of such conduct.

Acting in obedience to his convictions, the doctor gave me notice of his case and of his interpretation of it, and demanded an investigation. His peremptory zeal was seconded by the warm appeal of the former employer of the deceased that I would leave nothing undone to bring the offender to justice, or, by a thorough inquiry, clear the dead girl's character of the imputation now resting upon it.

I believed I saw more of zeal than discretion in all this crimination, and did not enter on the case with much expectation of seeing judicial proceedings result. I did, however, realize the facility with which grave charges are sometimes made upon slight foundation in fact, and this instance seemed an example. Because, therefore, it was an official obligation, not less than because a medical examination would probably make clear that which was now obscure, I took charge of the dead body, directed its removal from the keeping of its drunken guardians, and sought, by dissection, for the cause of death.

This autopsy was made fifty-five hours post mortem. Omitting its details, I may summarize its results as follows: there was abundant evidence, both externally and internally, of general peritonitis, with suppurative exudation. In the right broad ligament of the uterus an abscess had developed, matured, and ruptured, the exceedingly offensive purulent contents having escaped into the abdomen to originate the mischief there. The cavity of this abscess was of the size of a large orange.

The uterus was very slightly enlarged. It showed no appearance whatever of recent impregnation, of disease, or of mechanical injury; its mucous membrane was entirely normal. The vagina, likewise, was healthy.

The stomach and intestines gave no indication of violent treatment, by drugs or otherwise.

The cause of the death was certified to the registrar and to the district attorney as pelvic abscess resulting in general acute peritonitis.

If time and your forbearance permitted, other similar cases might be added to the foregoing; but those related will suffice to illustrate the purpose of this paper. It must be obvious that these three deaths were attended by circumstances which gave them a distinctive and exceptional character. If the testimony of parties claiming to be cognizant of the concomitant facts was to be credited, neither of the three individuals died in consequence of the operation of natural causes simply. Nor was either of the deaths a death by *violence* simply, according to the ordinary interpretation. They differ, on the one hand, from the instances of sudden death in which the individual, in the midst of his family or friends, expires in the course of nature without a warning; and, on the other hand, the inspection of the bodies furnished no external, unequivocal sign to point the way to a clear medical opinion that violence had been actually used. So that, in the first instance, all these cases, as to the cause of death, lay under great uncertainty. In one respect, indeed, they had a community of character; over all of them rested the suspicion, approaching to a reasonable presumption, that the deceased persons came to death in consequence of unlawful acts on the part of other persons, and this regardless of the unrestrained neighborhood gossip which always speaks the word "murder" glibly and inconsiderately. Specific accusations were indeed expressed, and in one of the cases arrests were made. In two of the cases the attendant lent the weight of his medical opinion in favor of the theory that violence had been done to the persons of the deceased. Now, these elements, once imparted to the cases, could not be excluded off-hand; they required consideration, they compelled attention. These three dead bodies with their equivocal environments might readily present, on that account, problems for solution more difficult than they could have done had they been found with their identity and history actually unknown. Cases of this kind, therefore, offer the opportunity for the application of forensic medicine in its highest function; they demand patient investigation, an unbiased judgment, deliberate caution, intelligent search for the truth, judicious reticence. Upon the answer to the question in such instances, "What caused this person's death?" depend not only individual interests, but in the broadest sense the conservation of public morality and the promotion of justice.

How does the Massachusetts law of 1877 meet these and similar cases? I have intimated that the law possesses special advantages in this regard. Without exhausting the list, let me mention three of these: —

In the first place, the law provides that a purely medical question shall be solved by a medical man, whose conclusions are preliminary to other proceedings in the case. It creates a medical examiner, and demands of him that he shall determine the cause and manner of death, and that alone. It leaves him free to prosecute his inquiries from the medical stand-point simply. It does not hamper him with a complication of functions; it does not compel him to be a physician, a detective, a constable, a judge, and a juryman, all in one. The question, "Who caused this death?" is not for him; it is of no concern to him except as it is related immediately to the solution of that other question for the answer to which he is directly responsible, namely, "What caused this death?" He is not to lose sight of the fact that he is a physician in the employ of his county, to do a physician's work. He has no need or right to embarrass himself with speculations about murder, justifiable homicide, or simple assault. The law thus aims purposely to remove him beyond the influence of bias and the thralldom of technicalities, and makes it his single aim to ascertain the truthful solution of a purely medical problem.

But, secondly, the law does not create this medical examiner and leave him without the requisite facilities and authority for prosecuting his investigations in a strictly medical manner. It makes easy the one method of inquiry which is indispensable, — the necropsy. It interposes such safeguards and checks only as are needed to prevent the abuse of the authority conferred. The machinery is simple, direct in application, effective. There is no circumlocution, no delay in action. The problem and the agent for its solution are brought into immediate relation.

It thus happened, in each of the three cases cited, that the application of the methods provided by the Massachusetts law cleared up at once and authoritatively matters that were involved in much doubt and obscurity; resolved and dismissed the imputation of crime; and by a determination that the cause of death was not by violence at the hands of others fully satisfied the requirements of public order and of justice.

And this leads us to the third consideration in behalf of the new law, one which you must have already anticipated, namely, that with the medical report in such cases the official investigation comes to an end, save in circumstances exceptional to the last degree. Thus, as all will recognize, the medical examiner is a responsible agent by whose professional knowledge the public treasury and the public comfort and morals constantly profit in that he is a stay to what, under other circumstances, would be unnecessary, expensive, and, possibly, scandalous inquests.

RECENT PROGRESS IN ANATOMY.[1]

BY THOMAS DWIGHT, M. D.

Dr. W. Roux [2] has written a long paper to prove that the subdivisions of the blood-vessels occur according to the laws of hydro-dynamics, and that they are so arranged as to distribute the blood with the least possible expenditure of vital force. The essay is altogether too abstruse for analysis in this report, and is mentioned merely to serve as an introduction to Professor Schwalbe's [3] paper on the influence of displacements by growth (*Wachsthumsverschielungen*) on the conformation of the arterial system. Roux admits that it is impossible for the force of a current to occasion vessels to sprout out at right angles to the parent trunk, much more to make them recurrent; nevertheless such forms are very numerous in the adult. The principle, as Schwalbe himself says, is not new. We are all familiar, for instance, with the lengthening out of the spermatic artery as the testis descends, and of the change of relations between the spinal column and cord that goes on after birth, due to the more rapid growth of the former. Schwalbe, however, calls our attention to new points, and most important of all shows how certain peculiarities in one part of the body make probable the existence of others elsewhere. His observations are not sufficiently numerous to be of much value by themselves, but he has the merit of opening a new field, presumably a rich one, for inquiry.

The reader can easily construct a few diagrams that will illustrate the principle involved. Let him draw two parallel vertical lines A B and C D, and connect them by a number of transverse ones at right angles to the first two. Let the line A B represent an artery, and C D a muscle or anything else beside it, and let the transverse lines be branches running from the former to the latter. Now it is evident that if C D grows twice as fast at both ends as A B does, the branches will become divergent, the upper ones running upward, the lower downward. If, on the other hand, A B grows, the faster they will converge, and, supposing the current to be downward, in the former case the upper vessels and in the latter the lower will be recurrent. By imagining that the points A and C remain fixed opposite each other, and that B and D travel away from them at different rates, it is easy to see that other but analogous changes will occur. If certain parts of either or both lines increase at a different rate from other parts of the same line, of course the matter becomes more complicated.

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[1] Concluded from page 306.

[2] Jenaische Zeitschrift für Naturwissenschaft, Band xii., Heft 2, 1878.

[3] Ibid.

We will now enumerate some of Schwalbe's observations, and then show the diverse effects that apparently are brought about by a common cause. He first proves that the combined length of the innominate artery and the right common carotid is much greater relatively to that of the descending aorta in fœtal than in adult life. In other words, the latter grows faster than the two former. A comparison of the rate of growth of the descending thoracic and of the abdominal aorta shows no difference of importance. It appears, however, that the abdominal aorta does not enlarge at one uniform rate. It may be divided into three parts: the first to the superior mesenteric artery, the second between that and the inferior mesenteric, and the third thence to the bifurcation. There is so much individual variation in the origin of these arteries that we can attach no great value to Schwalbe's conclusions, which are that as the body grows the first part increases more and more slowly, and the third part quicker and quicker. He is inclined to think that taking the great arterial trunk from the bifurcation of the carotid to that of the aorta we have a series of segments, each of which grows faster than the one above it. We will next consider the form of the superior thyroid artery, the first branch of the external carotid. Anatomists give three accounts, all of which, no doubt, are founded on fact: the first is that the artery is at once recurrent, that is, running downward from its origin; the second, that it forms an arch with the convexity above; the third, that it arises at an acute angle from the carotid, runs upward, and then turns over to run down again. The second and third forms are but different degrees of the same thing. The first form, the purely recurrent, is the rarest in the adult, but it apparently is even far more rare in the infant: it is caused in part, at least, by the sinking of the thyroid body at puberty; possibly also by the rising in the neck of the point of origin of the artery. He next takes up the intercostals and lumbar arteries which arise from the aorta. He finds them divergent in children, that is the middle ones run outward, and the upper and lower respectively ascend and descend to their places; but in the adult, as a rule, they are all ascending. The beginning of the descending aorta is found to be decidedly higher in the first half of fœtal life than it is afterwards. The aorta also divides into the iliacs at a lower and lower point with advancing years. A new element is brought in here, for in old age the shortening of the spine tends to produce this effect.

Following our author we now go back to the carotids. The point of division has been very accurately determined by many observers, though there are discrepancies in their opinions, but excepting Hilderbrand, quoted by the author, no one, as far as we know, has considered the influence of the length of the neck on this point. Hilderbrand states that the bifurcation occurs at the same point whether the neck is long or short; but Schwalbe's investigations appear to show that the length of the artery is not very variable, and that consequently in a short neck there will be a high division, and in a long neck a low one,— even as low as opposite the inferior border of the thyroid cartilage. The author then calls attention to the fact that the carotid has two distinct ways of dividing: one form is that of simply splitting into two trunks which diverge at a very acute angle; the other is seen when the internal carotid turns at first backward, nearly at a right angle with the parent trunk, and then shortly turns up again. This form Schwalbe compares to a candelabrum. The latter form is the most common in children, and it is evident by a glance at the diagram of the development of the arteries of the neck that the very short, nearly horizontal portion at the origin of the internal carotid is the remains of the third branchial artery. We must remember that while the neck lengthens the arch of the aorta descends to a deeper level, and that the effect of this double pull must be to straighten the course of the long arteries of the neck; thus the candelabrum form of division will become less marked, and may be converted into the form of the acute angle. The stronger the pull the more marked the result; and thus we find in long necks a low division of the first or pointed kind, and in short necks a high division of the candelabrum kind. More than this, the influences which affect the carotid affect also its branches, and in long necks we find the supeior thyroid artery at first running upward, while in short necks it runs downward from its origin. Other results come from the same cause. Given a long spinal column, we have not only the peculiarities just mentioned, namely, a relatively low division of the carotid at an acute angle, and a superior thyroid which at first ascends, but the aorta will be relatively short, and the lower lumbar arteries may run downward; while a relatively short column and long aorta will imply that the last mentioned arteries will be horizontal, or even running somewhat, upward, and that we have the other arrangement in the neck.

This is the gist of the paper. We have given so much space to it not because we think any of the points brought out of great value, or because we feel much confidence in many of the observations, but because it seems to us that the principle is sound, and that the laws by which the correlation of apparently very distinct peculiarities is brought about deserve serious attention, and that Professor Schwalbe has done a good work in opening this field.

The Blood-Vessels of the Calvaria and Dura Mater.[1] — In spite of all that has been written on this subject Professor Langer has succeeded in discovering some new points. He has found a new anastomosis between the systems of the internal and external carotids, consisting of a branch of the anterior cerebral which leaves that artery where it turns over the front of the corpus callosum, and runs on the falx to meet descending branches of the meningeal arteries. Sometimes a second vessel is given off further back. We will translate Langer's summing up of his observations on the superior longitudinal sinus: "The venous bulgings on the sides of the longitudinal sinus, described by Cruveilhier, show in fact a cavernous structure. They are no true dilatations of the sinus, but thick nets of large veins proceeding from the net-work of veins in the walls of the sinus, which receive also branches from the veins of the diploe. Originally these net-works of both sides are developed only along the surface beside the sinus and on the falx, but even in children they become larger at the vertex, and still larger and even varicose in old age and in diseases causing congestion. Under these circumstances they break through the dura mater, and make impressions on the inner table; sometimes they destroy this also, and open into the diploe. The so-called *foveolæ glandulares* are thus caused directly by varicosities of the veins of the meninges and of the bones. I hereb confirm Trollard's observations.

"This demonstration rests upon corrosion preparations of the sinus which show also that all the cerebral veins of the middle and occipital lobes open into the sinus only at the vertex by apertures very near together. Thus some veins run backward (as regards the current) for as much as an inch and a half in the wall of the sinus before reaching their goal."

Langer describes a thick venous net-work on the outer side of the dura mater, into which veins of the diploe open, which is in immediate communication with another net-work of fine arterial twigs. There are no intermediate capillaries, but the arteries open into the veins by conical communications. In the canals of the diploe also he finds both arteries and veins which join without intermediate capillaries, and that very minute vessels connect the spaces of separate bones running through the cartilage of the sutures even in childhood.

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[1] Denkschriften der kaiserlichen Akademie der Wissenschaften. Wien. Band xxxvi.

PROCEEDINGS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

EDWARD WIGGLESWORTH, M. D., REPORTER.

The second annual meeting of the American Dermatological Association was held at the Grand Union Hotel, Saratoga Springs, N. Y., August 27, 28, and 29, 1878, the president, Dr. J. C. White, of Boston, in the chair, and physicians from various States and from Canada being present by invitation in addition to the regular members.

August 27th. After the preliminary meeting of the council and the regular business meeting, the association was called to order by the president for the hearing of papers, at ten A. M. His own introductory remarks referred to the value of the committees upon nomenclature and statistics, and the need for a nomenclature upon which all might agree. This association is the only working body in existence for the establishment of such a nomenclature. He dwelt also upon the necessity of establishing special instruction in the schools and wards in hospitals. A list of publications by members during the past year was omitted on account of its length.

The first paper was upon The Pigmentary Syphiloderm, by Dr. J. E. Atkinson, of Baltimore. This is a late lesion. It has been described by Fournier. It occurs especially in females, is most common upon the neck, of a *café au lait* color, smooth, unelevated, non-desquamating, does not pit upon pressure, and is uninfluenced by internal treatment. It is distinct in appearance from the pigmentation left by syphilitic roseola, from the various forms of chloasmata, and from vitiligo. The hyperpigmented spots may be present without including islets of colorless skin. The disease occurs, according to Fournier and Hardy, even upon blondes and males having a very delicate skin.

Dr. Duhring reported a case occurring upon a blonde and resembling Fournier's cases, differing entirely from chloasma and vitiligo.

Dr. Fox said that the cases reported by Drysdale in England were upon blondes. He thought the importance of the disease overestimated. Though due to syphilis, it should not be regarded as a variety. A staining from disintegration of blood follows many inflammatory conditions, while the lesion in question resembles rather a vitiligo, which is merely an abnormal distribution of pigment in the skin. The islets or whitish macules probably represent previously existing hyperæmias, and occur upon the body as well as upon the neck.

Dr. Piffard had not recognized the disease, but regarded vitiligo either as syphilitic, or as a form which is not "progressive and permanent," but may become stationary, even the color sometimes returning, of which condition he knows two cases.

Dr. Taylor would explain Fournier's cases by the fact that the patients described were usually of the Latin race, in which pigment changes are especially common. The disease occurs in people who have had syphilis, without necessarily any previously existing lesion, and upon those who never have had syphilis. He has seen white maculæ occupying the exact site of a previously existing syphilitic roseola.

Dr. White regarded the condition as rare, though pigmentation after previous lesions is not rare. He had never seen a case of an independent syphiloderm of this character. Those asserting such a product must sustain the burden of proof, and show that where this is, syphilis has been, that it does not occur without syphilis, and that it differs from other similar conditions with or without syphilis.

Dr. Duhring read next a paper upon a Case of the so-called Xeroderma of Hebra, which will be published in the American *Journal of the Medical Sciences.*

Dr. G. H. Fox followed with a paper upon The Proper Use of the Term Acne, which he regarded as a disease of internal origin. He held that iodic and bromic acne were misnomers, just as syphilitic pustules cannot be called acne. Acne rosacea also was not necessarily an acne at all, and the word had better be dropped. In acne the individual lesions are usually acute, though the disease is a chronic one.

Dr. Wigglesworth regarded acne as a pathological condition. Comedones should not be called "acne punctata," but they might, by acting as foreign bodies, occasion, through inflammation, a true acne. If the presence of iodine or bromine in the secreting glands acts in this manner, we are justified in saying "acne from iodine." The condition present in so-called sycosis is that of an acne. Acne may precede, accompany, or follow the "rosaceous" condition. The term would be justifiable only when the two conditions were coexistent, and is a poor one at best. Though individual pustules may run an acute course, yet the indurated papules of acne may last for years. The condition or pathological entity, acne, is due usually to a more general process, as, for example, dyspepsia.

Dr. Von Harlingen considered acne as a distinct disease, but would have some other name for pustular eruptions of artificial origin.

Dr. Piffard thought many, though not all, cases of acne of internal origin. Acne rosacea in many cases shows no affection of the glands, and here the term acne should be dropped. Where both occur it is acne *plus* redness, not acne rosacea.

In the absence of Dr. F. P. Foster, his paper, A Case of Scleroderma, was read by the secretary, and the association adjourned until three o'clock, P. M.

Three P. M. The only paper read at the afternoon session was a long and very valuable one by Dr. C. Heitzmann upon Epithelium and its Performances, showing the necessity of basing dermatology upon anatomical research.

If we watch a single living protoplasmic body, for instance an amœba, a colorless blood-corpuscle, a pus-corpuscle, with high magnifying powers of the microscope (800–1200), we shall invariably see a delicate net-work both within the nucleus and the protoplasm. The body is surrounded by an extremely thin, shining, homogeneous layer, and such a layer always lines vacuoles also, which temporarily or permanently may form in a creeping protoplasmic body. The net-work of the nucleus, its surrounding shell, the net-work of the protoplasm, and the covering and lining shells, both of the body and its vacuoles, are formed by the living matter, the active contraction and passive extension of which cause all changes of shape and locomotion during the life of the protoplasm.

All formations in a highly developed animal body which are analogous to the outer covering layer of a single protoplasmic corpuscle, and which cover the outer surface and line all cavities within the body which are in direct or indirect connection with the outer surface, are termed *epithelia.* Formations, on the contrary, analogous to the wall of a closed vacuole of a single protoplasmic body bear the name of *endothelia.* Epithelia are present on the outer surface of the body, the skin and its elongations, the hairs, nails, sebaceous, sudoriparous, and mammary glands, and on the cavity termed the intestinal tract and its elongations, mucous and salivary; also on the pepsin glands, the intestinal, and those of the liver; on the cavity of the respiratory tract and its mucous glands; on the cavity of the genito-urinary tract, inclusive of all its elongations into the kidneys and the genital glands. Endothelia line the closed cavities of the skull and the spine; all the covering membranes and all ventricles in the brain, and their elongation into the spinal cord; the cavities of the chest, both pleural and pericardial; the cavity of the peritonæum; all articulations; and all blood and lymph vessels, inclusive of the cavities of the heart. A thorough distinction between epithelia and endothelia, however, cannot be maintained, as there is a direct communication between both upon the openings of the uterine tubes into the peritoneal cavity. The epithelial formations of the ovaries are in no communication with the outer world, and the crystalline lens, a formation completely epithelial in nature, is covered by the endothelium of the anterior and posterior chambers. Epithelia and endothelia are fully identical in their intimate structure. There exist single epithelial layers in the body, for instance those of the bile-ducts and of the uriniferous tubules; and also ciliated endothelia, as in the ventricles of the brain and the central canal of the spinal cord.

Epithelia and endothelia represent continuous layers of living matter. The former are the earliest formations in a developing body after the stage of indifference, started by the segmentation of the ovum, is passed; they form the epiblast and the hypoblast. These are invariably devoid of blood-vessels and lymphatics, while all formations of the mesoblast, inclusive of its upper layer, from which arise the central nervous organs, are provided with blood-vessels and lymphatics. The epithelial and endothelial layers are built up by single, polyhedral protoplasmic bodies, the formerly so-called "epithelial cells." Each body is separated from its neighbors by a narrow cloak of a lifeless, horny cement-substance, this being kindred to the basis-substance in the connective tissue. Under the microscope we can see only the lateral parts of the cloak, which appear in the shape of a pale seam around each epithelium. The network of the living matter within the protoplasm of the epithelium sends delicate conical offshoots through all formations of the cement-substance, both in epithelia and endothelia. These offshoots, up to the present time, have been termed "thorns of Max Schultze," in honor of their discoverer (1864). That the thorns are universal formations in the cement-substance, and especially formations of the living matter, thus building the bridges by which all epithelia are uninterruptedly connected, can be proved by different chemical reagents, and by the study of pathological occurrences within the cement-substance namely, inflammation, fatty degeneration, etc. In the cement-substance run the finest terminating fibres of the nerves, also in connection with the thorns, and indirectly with the net-work in the interior of the protoplasm.

We distinguish mainly three varieties of epithelia: the flat, the cuboidal, and the columnar or cylindrical. Flat epithelia invariably construct the outer layers in stratified formations; cuboidal, the middle layers; and columnar, the lowest layer nearest the connective tissue. Single epithelial layers may exhibit any of the named shapes; in the uriniferous tubules, for instance. we find all the three varieties, according to the calibres of the tubules. Columnar epithelia have two subvarieties, namely, ciliated epithelium, with whip-like elongations on the outer surface, therefore occurring only in single layers; the cilia here are in connection with the net-work in the interior of the protoplasm. (Th. Eimer and E. Klein.) Another subvariety is the bacillated epithelium, where the outer surface of the cement-substance is provided with numerous delicate rods, as in the intestinal canal and the bile-ducts. All organs of the body termed "glands" are formations of the epithelium. We distinguish two varieties of glands, namely, the acinous and the tubular. A roundish elongation of the epithelium into the connective tissue forms a simple acinous gland, represented by the mucous glands of the oral cavity, of the larynx, and of the trachea. Repeated folding up of the pouch leads to the formation of compound acinous or racemose glands, represented by the sebaceous, the salivary, the lacteal, the prostatic, and other mucous glands. An elongation of the epithelium, prevailing in the longitudinal direction, is termed a simple tubular gland, and is represented by the pepsin and the intestinal glands. Repeated ramifications of the tubules result in the formation of compound tubular glands, represented by the seminiferous and uriniferous tubules. Another subvariety of compound tubular glands may originate by a coiling of the tubule, as we see in the case of the sweat and ceruminal glands.

The main performance of epithelium, besides the protection of the whole body, conduction of terminal nerve fibres, and therefore of sensation, etc., is the elimination of used-up material from the body, that is, secretion. Every glandular formation is epithelial, and every epithelial body can be considered as a gland, inasmuch as the secretion is based upon a function of single epithelia.

There are mainly three varieties of secretion, namely, the watery, the mucous, and the fatty. The watery secretion cannot be directly studied under the microscope; we only conclude by watching amœbæ fed with carmine particles that, at any time when, through the visible contraction of the living matter within the protoplasm, carmine particles are thrown out from the amœba, a certain amount of its fluid is also discharged. A liquid once present in the blood must necessarily pass through the walls of the blood-vessels, and enter first the protoplasm of the epithelia, before it can be expelled from them; evidently owing to the contraction of the living net-work of the protoplasm. The watery secretion is carried on by the lachrymal and the sweat glands; the latter produce a fluid greatly varying in the amount of its solid contents and in its consistence at different times. As the death of the body approaches the perspiration becomes inspissated and almost mucous in its character. The inspissation of the fluid pressed out from the blood-vessels of the tufts of the kidney is evidently due chiefly to the action of the epithelium of the uriniferous tubules.

The mucous secretion can be immediately observed under the microscope, preferably upon minute particles cut off from the inner surface of the small intestine of a frog, by the addition of a very dilute solution of chromic acid or bichromate of potash, pure water being too rapid in its action. We notice at first a swelling of the protoplasm near the outer or free surface of the epithelium. There the covering cement-substance bulges out, and, after having reached the uppermost capacity of expansion, bursts, and a pale, globular body jumps forward, — the swelled protoplasm, in which no trace of the former structure can be seen. A number of such pale, globular bodies coalesce and form the jelly-like mass called mucus. At other times the whole protoplasm swells within the cloak of the cement-substance, and, after being freed, still shows the net-like structure of the protoplasm or isolated granules in lively motion, the broken particles of the former living matter. Salivary and mucous corpuscles arise thus from slow action upon the protoplasm. The cloak of the cement-substance, partly or totally emptied and perforated at one end, gives the appearance of a "goblet cell." A variety of mucous secretion is that of the stomachic juice or of the semen, in which there are suspended formations of living matter, — the spermatozoids, a direct offspring of the epithelia of the testicles. Saliva represents an intermediate condition between watery and mucous secretion.

The third variety of secretion can be best studied under the microscope upon colostrum-corpuscles, which are suspended in the serous discharge of the mammary glands for a few days after delivery. Here we see the first-formed fat-granules still in connection with the net-work of the living matter within the protoplasm, and we readily arrive at the conclusion that fat is a directly transformed living matter. During the locomotion of a colostrum-corpuscle fat-granules are very often thrown up from its interior. (S. Stricker.) After a few days, however, no more colostrum-corpuscles are secreted, because the living matter of the epithelia is completely transformed into fat-granules, leading to a destruction of the epithelia, the granules of which commingle with a serous fluid and form the emulsion called milk. This process of fatty change of the living matter of the epithelia of the mammary glands is a remarkably rapid one; on microscopic specimens of the breast in full lactation we find but little protoplasm unchanged; the chief part has been transformed into fat-granules, which, having been extracted from the specimen with oil of cloves, leave only the shells of the cement-substance behind. The highest degree of fatty change of the protoplasm is reached in the sebaceous and the ceruminal glands.

The first day ended with the report of the committee upon statistics, Dr. J. C. White, chairman. This report is based upon nearly seventeen thousand consecutive cases of diseases of the skin, showing their prevalence in different parts of the country, and will be published.

(*To be concluded.*)

DR. DWIGHT'S PRIZE ESSAY: AN ANALYTICAL NOTICE.[1]

Dr. Dwight is well known by his contributions to anatomical knowledge. Patient, careful, diligent, he has gleaned many interesting *faits pour servir*, in one of the closest-cropped stubble fields of science, the department which is commonly distinguished as descriptive anatomy. After our surfeit of histology — in which also Dr. Dwight has worked intelligently — it is refreshing to see a treatise in which the body is studied without the microscope. Thousands of observers have studied it in that way for hundreds of years, and yet there is always something to be learned. Even the bones, which have had far more than their share of attention, have secrets to reveal to the eyes of each successive generation. There are few, if any, of our experts, even among those who have taught anatomy, and given year after year what they and their students thought minute descriptions of the bones, who will not find interesting, and in certain circumstances important, facts about them of which they have never heard or read or thought, in this well-studied essay.

"The purpose of this paper," says the writer, "is to lessen these difficulties by giving practical directions how to work, by testing the truth of the statements of authors, and when these disagree by declaring which one, in the writer's opinion, is most trustworthy, and finally, by calling attention to a number of anatomical facts, some of which are believed to have been overlooked, and others of which are not easily found. . . . .

"The questions to be determined usually are: —

"1st. Are these bones human?

"2d. Do they belong to one or more individuals?

"3d. What is the sex?

"4th. What is the age?

"5th. How long is it since death?

"6th. What is the height?

"7th. If certain parts are wanting, can we estimate their size? If so, how?"

I. *Are the bones human?* This first question will be readily answered by any expert in human anatomy who knows something of the bones of the lower animals, and is disposed of in ten lines.

II. *Do the bones belong to one individual?* The answer to the second question occupies nearly half the paper, embodying a large number of measurements and weights, with three charts and seven elaborate tables. The most striking facts brought out are these: —

The bones of the two sides of the body often differ in length, and may differ considerably: thus the clavicles differed in one instance as much as .39 of an inch; the humeri half an inch; the femora three quarters of an inch. These observed differences of course imply the probability if not the certainty of still more considerable diversity in other unobserved cases.

The greater portion of the labor of this section is expended upon the separate vertebræ and the vertebral column as a whole. Here are a few of the many points examined and illustrated: The chart of weights puts the apex of the second of the four pyramids of which the spinal column is commonly said to be made up, at the third instead of the fourth dorsal vertebra. The mean weight of the third in grammes in the seven cases tabulated was 10.54 for the third, and 10.84 for the fourth; in grains 163 and 167. Sometimes, however, the proportions are reversed, and the difference is of little moment.

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[1] *The Identification of the Human Skeleton. A Medico-Legal Study.* To which was awarded the Prize of the Massachusetts Medical Society for 1878. By Thomas Dwight, M. D., of Boston, late Professor of Anatomy at the Medical School of Maine.

All anatomists would probably agree that they could distinguish the following vertebræ in addition to the atlas and axis: the seventh cervical, first and last three dorsal, and the fifth lumbar. If the student consults his Gray's anatomy, and expects to find all the corresponding vertebræ like those in the figure there given, he will say that the *four* lowest are easily to be recognized. Let him consult Dr. Dwight and the cases he cites from Professor Struthers, and he will learn the necessity of caution in relying upon the figures in the best of text-books, which, however trustworthy as copies of nature, can give only one of perhaps many varieties of formation.

"The shortness of the transverse process in the tenth (dorsal vertebra), the breaking up of it into three knobs in the eleventh, and their reduction in size in the twelfth, are very characteristic." It might be wished that Dr. Dwight had been more particular in his notice of these "three knobs,'' two of which are known as the mammillary and accessory processes, and are of great interest as developed in some of the lower vertebrates. They differ very much in individual skeletons, and are not satisfactorily described in most of our text-books.

The changed direction of the upper articular surfaces commonly found in the twelfth dorsal vertebra is the subject of variations worth noting, possibly of use in some exceptional case. The greater weight of the fifth lumbar vertebra in some cases, notwithstanding the rapid bevelling of its lower surface, is also noticeable. Dr. Dwight speaks of this as more liable than other vertebræ to present important variations in individual cases.

Tables and charts are given showing the heights of the bodies of the vertebræ in the different regions, also the breadth of the transverse processes, all of which may help in forming an opinion in a doubtful case.

The hands and feet are studied with care for the purpose of distinguishing their most characteristic individual bones. Selecting one of the most obvious questions, let us ask, Is the fore-finger or the ring finger longest? Professor Mantegazza published 712 cases: in 589 the ring finger was the longest, in 91 the fore finger. Dr. Dwight dissected ten hands to get trustworthy data. In eight the ring finger was longest before dissection; in all the cases after separation from the metacarpal bones.

III. *The sex.* Six of the fifty pages are given to the differences in the skeleton of the male and female. Apart from the characteristic slenderness of the bones and the slight comparative development of the processes, the most important distinctions are to be found in the pelvis, and there does not appear to be any very significant addition to the well-known characteristic marks. Mr. Ward's observation as to the different curves of the male and female sacrum is confirmed by the numerous specimens at our medical college, that is, if the small, broad, light ones may be assumed to have belonged to females, and the large, narrow, heavy ones to males. It is a comfort to find that Dr. Dwight does not make much of the special form of the foramen ovale in the female. It is "said to be more triangular in women." But a conscientiou teacher cannot always show his students what their text-books lead them to look for, and the temptation to draw on his imagination in such exigencies is one of the demoralizing influences of *ex cathedra* prelections and demonstrations.

"Hyrtl's law" that "the manubrium of the female sternum exceeds in length that of half the body [the gladiolus, or middle piece], while the body in the male sternum is at least twice as long as the manubrium," is confirmed, on the whole, by Dr. Dwight's measurements, but the difference between the sexes is very slight in the series which he gives.

IV. *The age.* Dr. Dwight enumerates four stages of life usually capable of being distinguished from each other: the immature stage reaches to twenty-five in the male, to twenty-two in the female; the young stage, from thence to about thirty; the mature stage, from thirty to about sixty; the senile stage, which may begin at a very variable period. "Apart from the teeth, we have the following guides to an opinion: the union of the epiphyses, the obliteration of the lines of this union, the obliteration of the cranial sutures, the joining of distinct pieces, and finally senile changes in the shape and constitution of bones." Much caution is necessary in drawing inferences from most of these appearances after the age of maturity is reached. He calls attention to the fact that the tip of the acromion sometimes remains ununited throughout life. Certainly it is common enough to find it ununited, and still more frequently presenting a distinct line of demarcation from the rest of the process in the adult, but whether throughout a life of threescore or fourscore years may be questioned.

The teeth of the second set are all present before the age which the essayist is considering. "The wisdom teeth usually appear between eighteen and twenty-five, but they may appear at seventeen or not until thirty, or possibly not all. They are like the trains of some railroads — due when they arrive."

V. *The time since death.* So much depends on the soil, temperature, and other accidental circumstances that "the expert should not allow himself to express an opinion." This is a strong statement. The grave-digger in Hamlet would have ventured an opinion, and there are old sextons who could probably give a tolerably shrewd guess to which a jury would attach some value, and from whom even the expert might learn something. But over-caution is better than over-confidence in all cases involving so many complex conditions.

VI. *The estimation of the height.* This is a very curious chapter, which must be studied in the essay itself. The great point of difficulty is to get the true vertical measure of the spinal column, for which purpose the thickness of the intervertebral disks and the effect of the different curves must be carefully estimated. Hermann Meyer's geometrical plan (which reminds one a little of Gulliver's Laputan tailor's measurements) is very ingenious, and may serve as a kind of scaffolding to construct the spinal column by on the bed of plastic material in which the vertebræ are to be imbedded.

Very precise directions are given for placing the spine upon the pelvis, which is a matter of much importance, and requires special care. The arrangement of the lower limbs in position, and the addition of the head, with all proper allowances for the soft parts which add to the length of the body, are treated of and complete this chapter.

VII. *Proportions of the body.* Position of the top of the symphysis pubis. We may sum up by saying that in woman the centre is at the symphysis pubis, though in tall ones no doubt it is below it, and in short ones above it. In average men the centre is a little below the symphysis, and in tall men from 2 cm. to perhaps 2 inches below it. The mean height of the parts above the spine of the seventh cervical vertebra was found by Dr. Gould to be 9.95 inches, or .148 of the height. This may be of special use if the head is not found with the other bones.

VIII. *Missing parts.* The result just referred to may be applied, if the head is missing, by adding 9.95 inches for a male adult to the height measured up to the level of the seventh cervical vertebra. For the height of the head alone 5½ inches may be added for the male, a little less than 5 inches for the female, with a quarter of an inch for the scalp, — these measures being of course mere approximations. Various other directions are given in case parts of the spine, the pelvis, or the lower extremities are wanting. For these and numerous details the reader of this notice must refer to the essay, of which only a sketch is here given.

A critic fails to assert the supremacy of his calling who does not point out something which may be improved or corrected in the work which has very probably taught him the greater part of what he knows about the subject treated. Something might be said about the *color* of bones as serving to distinguish one skeleton from another, even under the same circumstances of date and exposure; of the presence or absence of *fat* in them, especially as connected with the age of the subject; and of the curious effect of *heat* in altering the size and form of bones, as shown in the too famous trial in which the bones had been submitted to the heat of a chemical furnace.

This useful essay will be looked over by many and will be studied by a few. It will then be laid away and slumber, in good company, it may be hoped, for it is worthy of such neighborhood. By and by the bones of the missing peddler — the one who disappeared five or ten or some other number of years ago — the peddler who is always missing, at any rate — will be found, or will be said to have been found in somebody's cellar, or under somebody's woodpile, or other unsuspected locality. The village will be in a stir; the neighboring doctor will be called on to decide whether the bones are human, whether they belong to one person, the sex, the probable age, and so on.

This case or something like it is sure to happen in dozens of localities; it is always happening. The corpulent books of anatomy are too short-winded to give a connected and detailed answer to all the questions that arise. Then it will be that Dr. Dwight's attenuated octavo shall revenge itself on the dust and cobwebs of temporary oblivion. The resurrection of the missing peddler, a fact which will renew itself to the end of time, will call forth his slender volume from its obscure retreat, and his name will be spoken with grateful remembrance as that of the guide who has furnished a clue to the expert in one of his most responsible tasks, — that of determining a fact on which the life and character of a fellow-creature, suspected of the gravest of crimes, may be depending.

O. W. H.

CHARBON IN HAIR FACTORIES.

A RECENT outbreak of charbon (anthrax, or malignant pustule) at a hair factory near this city has attracted not only professional but public attention, and will accomplish some good if it arouses sufficient interest to compel manufacturers throughout the country to afford their operatives all the safeguards that the present state of science shows to be worthy of confidence.

This affection has been studied by able men in the profession, and may now be regarded as well established among the preventable diseases. Let our manufacturers take the prevention of this disease in hand with the same energy they give to the details of the economy of production, and but little opportunity would occur for the study of it among their operatives. Attempts at concealment of its existence are useless, and ignoring it longer is impossible.

The application of steam at a high temperature proved effective at Walpole when the business was conducted there, but was objected to as not being economical. Boiling also seemed to answer the purpose, but was open to the same objection. Since then the experiments of Davaine [1] show that a very moderate temperature, 140° F., if maintained in the presence of moisture, is sufficient to destroy the virus, though greater heat renders this much more certain and shortens the time. The results of his extensive experiments [2] with disinfectants show that sulphuric acid, which is cheap, is the most valuable, and has the advantage of not being so offensive as carbolic acid, which has been recommended for the same purpose.

Though Siberian hair just at present has a bad reputation as a vehicle for the virus, and though undoubtedly charbon has prevailed extensively in Russia, during the past few years South American hair has elsewhere been considered particularly dangerous; and the truth is that any locality may become the seat of origin of this affection, as domestic animals all over the globe are subject to the disease, and it may be communicated by themselves, their skins, or hair.

Local boards of health can do but little in enforcing sanitary regulations in the works of a wealthy company, but our State Board of Health may find a field of usefulness here, and distinguish themselves again as they have done before.

MEDICAL NOTES.

— Dr. Robert White, Jr., of this city, has been appointed an assistant surgeon in the United States Marine Hospital service, and assigned for duty at the port of Philadelphia.

— Wittich (*Berlin. klin. Wochenschrift*, No. 11, 1878) states that for the sleeplessness of a certain class of female lunatics affected by melancholia, extreme anxiety, hallucinations, and a low state of nutrition, camphor is an excellent remedy, and acts favorably when chloral, morphia, bromide of potassium, etc., all fail to induce sleep. Wittich injects 0.1 to 0.2 grammes of camphor subcutaneously after dissolving it in sweet almond oil.

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[1] Compt. rend. Acad. des Sciences, September 29, 1873. Action de la Chaleur sur le Virus charboneux.

[2] Compt. rend. Acad. des Sciences, October 13, 1873.

— There appears to be no abatement in the ravages of the yellow fever. The number of deaths both in Memphis and New Orleans is increasing daily. We hear less of Grenada, for the simple reason, we suppose, that the disease there has done its worst. Notwithstanding the case of fever reported at Mobile, there is no extension of the disease at that point according to the latest reports. Dr. Woodworth, in an interview with a *Tribune* reporter, maintains that whenever the fever becomes virulent in a large city the wisest course is to establish temporary camps on high ground two miles away, quarantine being effected at an intermediate series of open-air hospitals, where the clothing of refugees can be thoroughly disinfected. He does not believe that there is any danger of infection from the mails. The only possible source of danger being the mail bags, which can be easily disinfected. The only pleasing feature of this calamity is the generous aid tendered to the South by Northern sympathizers, and the devotion to the sick of many self-sacrificing individuals, among whom physicians figure, as usual, prominently. We may venture to suggest that a fund be held in reserve to aid in placing the infected cities in a proper sanitary condition to resist future attacks.

— The forty-sixth annual meeting of the British Medical Association was held in Bath during four days of the second week of August. A painful incident at the opening was the reading of the address to have been delivered by the late president, Dr. Eason Wilkinson, who died suddenly but a few weeks ago. After appropriate remarks on the sad event, the society elected Dr. Falconer, of Bath, president for the ensuing year. The report of the council showed a flourishing condition of the association, as regards both finances and the increasing number of members, seven hundred and forty-nine having been elected since the last annual meeting; total number now on books seven thousand five hundred and thirty-six; total balance of assets over liabilities in January last was nearly £5504; annual income, £11,000. It was also remarked that the journal of the association, the *British Medical Journal*, continues to increase in popularity. During the past year a special grant of £100 was made for the investigation into the pathology of hydrophobia and rabies. Medals for distinguished merit cost £154. The need of new offices led the "Journal and Finance committee" to take new premises in the Strand, London, on a lease of twenty-one years, at a rent of £320 per annum. The question of admission of women was considered in a paper which negatived their admission.

The formation of a new branch of the association in Belfast for the north of Ireland was announced; there are now three branches in Ireland, five in Scotland, and twenty-two in England. The first colonial branch, namely, in Jamaica, has also during the year received the recognition of the society. Reports were also made concerning a memorial to the proper authorities in regard to securing the public against incompetency of medical health officers; concerning a second in relation to present anomalies in the boundaries of sanitary districts, and the need of their rectification in the interest of public health. Progress was reported in furthering legislation for habitual drunkards, and in registration of disease.

The following distinguished foreigners were recommended for election as honorary members: Billroth of Vienna, Charcot of Paris, Esmarch of Kiel Liebreich of Berlin, Ludwig of Leipzig, Pasteur of Paris, Sayre of New York.

A motion appointing Cork as the place of the annual meeting in 1879, and Dr. D. C. O'Connor as its president, was carried. The address of the president, Dr. Falconer, those of Dr. Goodridge and Mr. Wheelhouse on Medicine and Surgery respectively, the addresses also of Dr. Grainger Stewart, Mr. Geo. W. Callender, and Dr. Alfred H. Clintock at the opening of the sections respectively of Medicine, Surgery, and Obstetrics, were eloquent and instructive. Their length obliges us to refer our readers to the *British Medical Journal* for August 10th, in which will be found a report of the whole meeting in detail.

The occasion was one of much interest, several hundreds of members were present, and in all respects the association seems to be steadily growing.

— Sickness is greatly on the increase in the Russian army. At San Stefano twenty thousand patients await removal, much difficulty being found in chartering steamers, the crews of which desert from fear of contagion.

— Dr. von Winiwarter has been called to Lüttich to take the position formerly held by Gussenbauer. — Professor Spiegelberg, of Breslau, has declined a call to Strassburg because he feels that his services are needed at the Breslau school.

— Dr. Edward C. Spitzka, of New York city, has secured the prize offered by Dr. Hammond, of that city, for the best essay on the Physiological Action of Strychnia on the Brain, Spinal Cord, and Nerves.

— Of the American Archives of Dermatology the *Medical Times and Gazette* says: "Publications like this tend to awaken healthy interest in the subject of which they treat, and in proper hands are a direct antidote to charlatanism. Hence we regret that we should have to look to America for our digest of cutaneous medicine, as we look to her for sewing-machines, talking-machines, and other useful commodities. . . . We have in London the largest amount of skin disease for scientific investigation of any city in the world, and yet how little of it is utilized as it should be!"

— According to the *Lancet*, F. Winckel has investigated the generative organs of one hundred and fifty sterile women dying at a sexually mature age, and finds that, apart from such causes as vaginismus, which could be ascertained only during life, the causes of sterility might be classified as follows: (1.) Mechanical obstructions. (2.) Chemically destructive influences. (3.) Disturbances in the nutrition of the ovaries. In almost all instances two or all of these conditions were present together, as in atresia of the Fallopian tubes, there were firm adhesions of the ovaries; in myomata there was abnormal position or disease of the mucous membrane, ovarian tumors, etc. He admits stenosis of the os uteri to be a cause of sterility only when follicular catarrh is present with accumulation of mucus in the cervix. It is only in these cases that Winckel forces a passage, and applies a caustic to the membrane.

— The recent hospital Sunday collection in London amounts to nearly twenty-five thousand pounds, and, in spite of financial depression, is not likely to show any falling off from last year.

SHORT COMMUNICATIONS.

THE FISHER CASE: LETTER FROM DR. TREADWELL.

Mr. Editor, — In regard to your quotation from my letter to Dr. Cheever, contained in your issue of last week, I would like to make the following explanation: —

In my testimony before the coroner's jury in the case referred to I said nothing about *villi* of the *chorion.* I had had no particular experience in this special phase of microscopic work, and consequently did not consider myself justified in using the results of such investigation in the way of evidence.

A day or two after my appearance before the inquest, when Professor Dalton was brought to my house for the first time, he asked me if I had found the *villi* of the *chorion.* I replied, "I think I have, but I have not had much experience in that kind of work." Dr. Dalton then made a brief microscopic examination with a negative result, remarking at its close that for certain reasons he was not surprised at his failure to find the *villi,* even if they had existed. I resolved upon further investigation in regard to this point, but before I had opportunity to execute my design Dr. Cheever published what I considered an unfair letter, in a hurriedly written reply to which I said, "The presence of the *corpus luteum* was not relied upon as the only or the main sign that pregnancy had existed," it seeming to me that the other indications noted in the report of the autopsy afforded evidence hardly secondary to that furnished by the *corpus luteum.* I then inadvertently added, "The presence of the *villi* of the *chorion* was alone sufficient to settle that point." Having excluded this point from any bearing in my testimony, my allusion to it in the letter referred to was an inadvertence due to the haste in which I wrote. Subsequent investigation has convinced me that this proof of pregnancy did not exist.

In this connection I wish to say that your supposition that I am now "convinced that the true *corpus luteum* is not a sure sign of pregnancy" is not correct; on the contrary, I am more than ever satisfied that it is, and I suppose there is no objection to my saying that since the completion of his recent researches Professor Dalton has expressed a similar opinion, saying to me, "There is no doubt about it."

I am now satisfied that in the Fisher case the corpus luteum found was not a true but a false one, so modified by abnormal conditions that in most respects it resembled a true one, but from which in other and vital points it differed. I have no doubt that had Professor Dalton seen it in its fresh state he would have detected its real character.

Very respectfully, J. B. Treadwell.

Boston, *September* 7, 1878.

CHOREA A SELF-LIMITED DISEASE.

The *Medical Times and Gazette,* August 10th, reports Professor Sée as saying (*Union médicale,* August 1st), "It is right to say, in a general way, that chorea cures itself, and that the various modes of treatment which are resorted to exert little effect on its duration." Here is a chance offered for new investigations. ⁂

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. IX.

Office Surgeon-General U. S. M. H. S., Washington, *September* 7, 1878.

New Orleans. — During the week ended yesterday noon there were 1732 cases of yellow fever and 526 deaths, making in all 4609 cases and 1395 deaths. During the twenty-four hours to noon yesterday there were 280 new cases and 61 deaths.

Port Eads, La. — During the past week there was one death from yellow fever, but no new cases.

Morgan City, La. — During the week to yesterday noon there were fourteen cases of yellow fever and two deaths, making in all twenty-two cases and six deaths.

VICKSBURG. — During the week ended yesterday evening there were 181 deaths, 41 of which occurred in the last twenty-four hours, making in all 366 deaths. About 2500 cases have occurred since the outbreak. Surgeon Keyes telegraphs that "the fever is on the increase, and it is impossible to obtain accurate data."

GRENADA. — Dr. Warren Stone reports 96 new cases of yellow fever and 49 deaths during the week ended yesterday evening.

CANTON, MISS. — During the fortnight ended yesterday noon there were 172 cases of yellow fever and 22 deaths, making in all 190 cases and 30 deaths. There are 120 cases under treatment, of which 16 occurred during the last twenty-four hours.

OCEAN SPRINGS, MISS. — During the week ended yesterday evening there were 15 cases of yellow fever and five deaths.

HOLLY SPRINGS. — The first case of probable yellow fever occurred on the 27th of August, resulting in death September 1st. Two deaths from undoubted yellow fever followed on the 2d. To yesterday evening about 100 cases and 25 deaths had occurred. More than one half of the population fled the city between the 2d and 5th inst. All of the members of the Board of Health are sick.

MEMPHIS. — For the week ended Thursday evening, September 5th, there were 529 deaths from yellow fever. Dr. Thornton reports that the number of cases cannot be obtained. During the week before the number of deaths (241) and the number of cases (721) were as one to three.

HICKMAN, KY. — The first case of yellow fever occurred August 16th. There were 60 cases and 24 deaths to yesterday evening.

LOUISVILLE. — For the week ended yesterday evening there were 25 new cases of yellow fever and seven deaths, all refugees and river boatmen.

ST. LOUIS. — During the week ended yesterday evening there were three deaths from yellow fever, — two refugees and a resident nurse who attended the refugees in hospital. At quarantine, below St. Louis, there were ten new cases admitted and nine deaths, all refugees but one, — the steward of the quarantine hospital, who is now sick, he having contracted the disease at quarantine. All boats and trains from infected districts are prohibited from entering the city, which remains healthy.

PASCAGOULA, MISS. — Three cases of yellow fever in shipping from New Orleans between the 1st and 5th inst.

CINCINNATI. — From August 28th to afternoon of September 4th, three new cases of yellow fever and two deaths occurred among refugees.

BAY ST. LOUIS, MISS. — One refugee arrived from New Orleans August 26th with yellow fever, and was sent back to New Orleans the next day. No other cases.

MOBILE. — City healthy. No yellow fever since the one death which occurred August 31st.

KEY WEST. — Two cases of yellow fever and one death during the week ended yesterday noon.

HAVANA. — Seventy-four deaths from yellow fever and seven from small-pox during the week ended August 31st.

MATANZAS, CUBA. — During the fortnight ended August 30th there were no cases of yellow fever in the bay, and only a few cases on shore.

SAGUA LA GRANDE, CUBA. — Since the 16th of August there were two deaths from yellow fever, but at the date of advices, August 28th, there were no cases in town or harbor.

CALCUTTA. — Nine deaths from cholera and 26 from small-pox: week ended July 6th.

BOMBAY. — Forty-one deaths from cholera and six from small-pox: week ended July 16th.

MADRAS. — Six deaths from cholera: week ended June 28th.

No official reports could be obtained from Port Gibson, Miss., Greenville, Miss., and Brownsville, Tenn., where yellow fever is reported to exist.

Reports from other places indicate good health, including Blount Spring, Ala., and Cedar Keys, Fla., both erroneously reported, through the press, as having cases of yellow fever.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 31, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	553	26.30	23.42	28.71
Philadelphia.	876,118	307	18.16	18.80	21.54
Brooklyn.	549,438	233	22.05	21.51	25.50
Chicago.	460,000	165	18.65	17.83	22.39
Boston.	375,476	173	23.96	20.10	24.34
Providence.	100,000	47	24.44	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	14	13.26	20.06	22.30
Cambridge.	53,547	24	23.30	18.69	20.83
Fall River.	53,207	24	23.46	21.35	24.96
Lynn.	35,528	20	29.28	20.42	19.67
Springfield.	33,981	14	21.44	16.02	19.77
Salem.	27,140	13	24.90	20.38	21.15

ERRATUM. — On page 319 of the JOURNAL for September 5th, the sentence, "and the average cost of each is about two dollars and a half," should read, "and the average cost of each (excursion) is about two hundred and fifty dollars."

BOOKS AND PAMPHLETS RECEIVED. — Variola: Its Causes, Nature, and Prophylaxis, and the Dangers of Vaccination. By C. Spinzig, M. D.

Urethral Stricture. By Thomas R. Brown, M. D. Baltimore. 1878.

Twentieth Annual Announcement of the Chicago Medical College.

Addresses delivered June 13, 1878, before the Alumni by B. L. Hovey, M. D., of Rochester, and by William C. Wey, M. D., of Elmira, N. Y., before the Graduating Class of the Syracuse College of Medicine.

Annual Report of the Inspectors of the State Prison of the State of Michigan for the Year 1877.

The Identification of the Human Skeleton. A Medico-Legal Study, to which was awarded the Prize of the Massachusetts Medical Society for 1878. By Thomas Dwight, M. D., of Boston, late Professor of Anatomy at the Medical School of Maine.

"You are bones, and what of that?
Every face, however full,
Padded round with flesh and fat,
Is but modeled on a skull." — *The Vision of Sin.*

Boston: David Clapp & Son. 1878.

Annual Reports of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Years 1876 and 1877. Washington: Government Printing Office. 1878.

Bibliotheca Medica. Cincinnati: Robert Clarke & Co. Price twenty-five cents.

Stricture of the Male Urethra: Its Radical Cure. By Fessenden M. Otis, M. D., Professor of Genito-Urinary Diseases in College of Physicians and Surgeons, New York, etc. New York: G. P. Putnam's Sons. 1878.

Medical Communications of the Massachusetts Medical Society. Vol. XII. No. 4. Boston: David Clapp & Son. 1878.

From Snow Banks to Orange Orchards. An Essay by James R. Nichols, M. D., A. M.

The Causation of Typhoid Fever. Fiske Fund Prize Essay. By George E. Waring, Jr. Cambridge: Riverside Press. 1878.

Transactions of the Medical Association of the State of Missouri at its Annual Session in May, 1878. St. Louis: George O. Rumbold & Co. 1878.

THE BOSTON
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A CASE OF ARSENICAL POISONING, WITH FATTY DEGENERATION OF THE LIVER, KIDNEYS, AND GASTRIC GLANDS.[1]

BY MEDICAL EXAMINER J. G. PINKHAM, M. D., LYNN.

Harry C., aged four years, previously in good health, was taken on the morning of November 19, 1877, with vomiting and gastric distress. As the physician who was called failed to recognize the true nature of the attack, and no appropriate remedies were administered, the case may be said to have progressed without treatment. According to the statements of the child's attendants the symptoms above mentioned continued with increasing severity until the morning of the 21st, about forty-four hours after the onset of the attack, when death occurred, preceded by stupor and convulsions. The vomited matters, which were dark-colored towards the last, were thrown away. Suspicions having been excited as to the cause of death, the writer, as medical examiner of the district, was summoned to investigate the matter, and an autopsy was made thirty-four hours after death, Dr. C. A. Lovejoy assisting.

The body was found to be well nourished. It presented the usual appearances resulting from hypostatic congestion. There was no rigor mortis. A careful examination was made of all parts accessible without section, and nothing abnormal discovered except slight parching of the lips, and some excoriation on the inside of the right cheek.

On section of the head the dura mater was found firmly adherent to the calvaria, as is usually the case in young children. There was a moderate amount of serum in the lateral ventricles, but perhaps no more than normal. The brain and its membranes were in appearance healthy. On laying open the abdominal cavity attention was immediately arrested by the large size and bright yellow color of the liver, the condition of which was obviously one of extreme fatty degeneration. On raising its lower margin the gall-bladder was seen to be distended with bile, some of which had transuded, staining the tissues beneath. The spleen was of normal size and color. The kidneys were of somewhat lighter color than usual, this appearance being especially observed in the cortical portion after section; but some of the pyramids of Malpighi were very dark. The stomach was removed entire, ligatures being placed above and below, and it, together with the liver, kidneys, and spleen, was sent to Dr. Wm. B. Hills, of the Harvard Medical School, for a chemical and microscopical examination.

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[1] Read before the Massachusetts Medico-Legal Society, June 11, 1878.

The intestines were carefully examined, and it was found that the mucous membrane of the duodenum was intensely red and swollen, and covered with a tenacious coating of mucus. These conditions obtained also in the jejunum and ileum, decreasing from above downwards. The mucous membrane of the colon was somewhat reddened. The rectum was partially distended with solid fæces, its mucous membrane being normal in appearance, or nearly so. The bladder was empty and contracted. The heart and large blood-vessels appeared healthy. The right auricle was distended with black, somewhat firmly clotted blood; the left auricle was empty. The right ventricle contained a small amount of blood, partially clotted. The left ventricle contained a small clot, a portion of it decolorized. The valves were normal. The larynx, trachea, bronchi, lungs, and pleuræ were healthy in appearance.

The spinal cord was carefully examined, and no indications of disease or injury were discovered in either it or its membranes.

Dr. Hills returned the following report, which I present in a somewhat condensed form: —

"The stomach contained two and one half fluid ounces of a dark-brown, viscid liquid, which on standing deposited a reddish-brown sediment containing many dark-red bits of substance of varying size, which, on microscopic examination, proved to be little clots of blood. The color of the liquid was found to be due to admixed blood and bile. In addition to blood corpuscles the microscope showed epithelial cells from the glands of the stomach, a large amount of granular matter, and a considerable number of crystals of arsenious acid. In the course of four or five hours' searching I discovered perhaps three hundred of these crystals.

"The mucous membrane of the stomach was observed to be somewhat swollen, and covered with a closely-adhering coat of mucus. It was for the most part pale in color, but reddened in patches, particularly over the greater curvature, the redness assuming principally a dotted form. There were also a few small dark patches near the pylorus, due to blood effused beneath the mucous membrane. Under the microscope the liver appeared to be in a state of extreme fatty degeneration, a fact obvious, indeed, to the unaided eye. There was quite extensive fatty degeneration of the kidneys, and also of the epithelium lining the peptic glands. One fifth of the contents of the stomach and one fifth each of the liver, kidneys, and spleen were tested together for the mineral poisons by appropriate methods. The result of this analysis was the discovery of arsenic. A portion of the liver (one fifth) tested separately for arsenic failed to show its presence. The contents of the stomach, tested as in the first instance, revealed unmistakably the presence of arsenic.

"No separate examination was made of the spleen or kidneys. It was not thought advisable to make a quantitative analysis without a special order from the medical examiner or court. It was estimated, however, that there might be one half grain of white arsenic in the contents of the stomach."

The symptoms in this case, the post-mortem appearances, and the result of the chemical analysis make it certain that the death was caused by poisoning with arsenic.

The extensive fatty degeneration observed suggests several inquiries, which I shall state, and endeavor briefly to answer.

(1.) Was this fatty degeneration due to the action of the arsenic?

This question must be answered in the affirmative, for there is no other cause to which the morbid change could reasonably be ascribed, inasmuch as the child was in good health before its two days' illness, which was undoubtedly due to the poison; and, besides, it is now a well-recognized fact that arsenic, in common with phosphorus, antimony, and various other poisons, will cause fatty degeneration, and in a space of time even less than was occupied in this instance. In support of this latter statement, H. C. Wood, Virchow, Rindfleisch, Casper, Hoffmann, Tardieu, Orth, Wagner, and other authorities might be cited.

There is, however, a singular absence of references to this subject in our standard English works. Even the latest edition of Taylor's great work on Medical Jurisprudence (1873) simply speaks of a case observed by Dr. Greiner, but says, in general terms, "The liver, spleen, and kidneys present no appearances which can be connected with the action of arsenic, although these, like other soft organs, may become receptacles of the absorbed poison."[1]

On the other hand, Casper says, "We find often in arsenic poisoning a fatty condition of the liver, heart, and kidneys."[2]

Naunyn speaks of this action of arsenic as a recent discovery; and so it must be regarded, since only recent publications give it full and explicit recognition.[3]

This fact is all the more remarkable from the prominence of arsenic in the literature of medical jurisprudence. Probably no other substance has been used so frequently with criminal intent. Its tastelessness, the ease with which it can be procured, and the certainty of its action have combined to render it a favorite agent of destruction with the Borgias and Tophanias of nearly all countries. Hundreds of cases of arsenical poisoning have been studied and recorded, and yet, strange to say, the remarkable phenomenon under consideration has not been clearly recognized, at least in our own country and England, until within a comparatively few years. But its occurrence must now be considered as established beyond the possibility of question.

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[1] Principles of Medical Jurisprudence, vol. i., page 254.

[2] Hand-Book of Legal Medicine.

[3] Ziemssen's Cyclopædia (Am. Trans.), vol. xvii., page 54.

(2.) In what way does arsenic act to cause fatty degeneration?

The most plausible theory seems to be that the fatty degeneration is the final stage of a parenchymatous inflammation, resulting, probably, from the direct irritant action of the poison after absorption. The irritation so produced causes an increased absorption of nutritive material — albuminates, and possibly fat — into the cells, which become enlarged, presenting the condition known as granular degeneration (in its higher stages, the cloudy swelling of Virchow), and undergoing finally the fatty change.

Orth, in his Compend of Diagnosis in Pathological Anatomy, an excellent work, now happily accessible to us all, in speaking of affections of the stomach (page 289), says, "The next in frequency [to acute and chronic catarrh] is what is styled by Virchow parenchymatous inflammation, and like the corresponding affections of the kidneys, liver, etc., which appear in certain cases of poisoning (phosphorus, arsenic), in acute infective diseases and similar affections (acute atrophy of the liver), consists in a cloudy swelling, and at a later stage fatty degeneration of the cells of the gastric glands."

Again (page 322), in speaking of the liver, he says, "The more extreme degrees of parenchymatous inflammation, when the cloudy swelling results in fatty degeneration, occur principally in two affections, — in poisoning by phosphorus (also arsenic) and in acute atrophy of the liver, the ætiology of which has never yet been ascertained. In cases of *phosphorus poisoning* the nature of the process is by no means universally agreed upon, as an abnormally large, bright-yellow liver, with icterus, greatly resembling the ordinary jaundiced, fatty liver, is often found; in consequence of this resemblance certain authors have maintained that the two are identical, and deny the existence of the parenchymatous inflammation. Other authorities (Virchow, Rindfleisch) contend that the essence of the process is a parenchymatous inflammation, in which, according to Rindfleisch, large fat drops are formed, while according to Virchow both fatty degeneration and fatty infiltration occur; and the latter may also be due to the phosphorus, which may possibly render the cells more capable of containing fat. At any rate, upon microscopic examination, besides the cells containing large *fat drops*, like those seen in fatty infiltration, others are found beginning to disintegrate, which is usually not the case in infiltration. This question might be *positively settled*[1] if atrophy of the liver resulted by the absorption of the fatty detritus, but death always occurs before this can take place, and a well-authenticated case of atrophy after phosphorus poisoning has never been observed." This was published in 1876. In the *British Medical Journal* for April 6th of the current year a case is reported in which an autopsy revealed atrophy of the liver after death from phosphorus poisoning. The person lived about eight days after taking the poison. He had had liver disease seven years previously. If this case be regarded as authentic, then, according to Orth, the question as to the nature of the fatty change in phosphorus poisoning is definitely settled in favor of the view that there is an actual degeneration, and not an infiltration alone. The reporter of this case regards it as confirmatory of the opinion expressed by Wagner that many instances of acute atrophy of the liver are really cases of phosphorus poisoning.

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[1] The italics are mine.

Although the above refers to poisoning with phosphorus alone, yet as this substance produces the same result as arsenic it is reasonable to conclude that any explanation of the action of one would be true also of the action of the other.

Various theories have been advanced to account for the final change by which the albuminates of the affected tissues are converted into fat or displaced by it; but this question is one which pertains to the pathology of fatty degeneration in general, and does not come within the scope of this paper.

(3.) In what length of time will arsenic cause fatty degeneration?

Casper mentions a case, fatal in ten hours, in which fatty degeneration had commenced in the liver. In another case, reported in *Virchow's Archiv*,[1] death occurred in seventeen hours, and there was found fatty degeneration of the heart, diaphragm, liver, and kidneys.

Saikowski[2] made numerous experiments upon animals, to elucidate the question of the action of arsenic and other poisons in causing fatty degeneration. He found that comparatively large doses of white arsenic (two grammes) given to rabbits produced in twenty to twenty-eight hours fat in the liver, kidneys, and muscles of the heart, just as in cases of chronic poisoning with small doses. There is reason to suppose that arsenic begins to exert its irritant action as soon as it is absorbed into the tissues. It has been proved by chemical tests that it may reach the liver in four hours after ingestion. The minimum time required for the subsequent changes has not been determined; but from what has been already demonstrated, we are safe in asserting that the final stage of fatty degeneration may be attained in a few hours after the poison is absorbed.

(4.) Is arsenic always found in the affected tissues?

[1] Vol. xxxiv., page 208.

[2] Virchow's Archiv, vol. xxxiv., page 73.

This question must be answered in the negative. In the present case Dr. Hills found no arsenic in the liver, although that had experienced its extreme effects. In the case before mentioned as fatal in seventeen hours no arsenic was found in the contents of the stomach or intestines, in the liver, spleen, or kidneys. Yet arsenic was without doubt the cause of death in this instance, and both the liver and kidneys were in a state of fatty degeneration.

This failure to find arsenic in the tissues is by no means an unusual circumstance. Two explanations suggest themselves: first, that the poison exists in so small quantities as not to respond to the tests employed; and, second, that it may have passed out in the process of elimination, leaving only its mischievous effects behind. Authorities generally concur in the statement that absorbed arsenic cannot always be detected, or that it *has* not always been.

(5.) How frequently does fatty degeneration follow poisoning by arsenic?

Dr. Hills, to whom I am indebted for much valuable assistance in looking up the authorities on this subject, has references to upwards of forty reported cases, mostly in foreign journals.

As the fact of the occurrence of this phenomenon passed so many years unrecognized, we may dismiss the greater number of cases in which it was not observed as by no means proving a negative, even in those instances. When death occurs a short time after the ingestion of the poison there may be only granular degeneration, or the very beginnings of the fatty change. It would require, oftentimes, the use of the microscope by an expert in pathology to detect these conditions. Exact pathological research is not common among physicians. For these reasons there is little difficulty in believing that in many cases of arsenical poisoning fatty degeneration has existed without being discovered.

Saikowski[1] found fatty degeneration to follow uniformly the administration of arsenic to rabbits.

It is proper, then, to conclude that fatty degeneration very frequently results from arsenical poisoning. Probably either it or the preceding condition of granular degeneration is always present.

(6.) What is the medico-legal value of the facts observed?

The first consideration that presents itself is that the medical examiner, if not familiar with the fact that certain poisons cause fatty degeneration, might conclude, on opening the abdomen in a case like the present, that he had discovered the cause of death in the notable disease there manifest, and refuse or neglect to search further. He would be all the more likely to reach this conclusion if the subject of the examination had been intemperate or out of health previous to his final illness. But even in this case he might be in error, for intemperance, or ill health, and fatty degeneration might coexist without being related as cause and effect; and, besides, fatty degeneration, at least of the liver, is not always to be regarded as a sufficient cause of death. When it occurs as widely diffused as in this instance it must be looked upon as presumptive evidence of poisoning. The presumption would be much stronger if the history of the case excluded other rapidly acting causes, like acute infective diseases.

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[1] Loc. cit.

Therefore, in all cases, fatty degeneration should cause augmented suspicion of poisoning, and lead the medical examiner to continue his search. He should not rest satisfied with an examination of the stomach and organs manifestly affected, but extend his explorations even to the brain and other parts not usually submitted to the chemist.

I close with the following summary of conclusions: —

(1.) It is an established fact that arsenic, in common with phosphorus, antimony, and other poisons, will cause fatty degeneration of the liver, kidneys, gastric glands, heart, and other organs.

(2.) It acts after absorption, probably by its direct irritant power, causing parenchymatous inflammation, the final stage of which is fatty degeneration.

(3.) This effect may be produced in a few — certainly in ten — hours after the ingestion of the poison.

(4.) Arsenic cannot always be detected by chemical tests in tissues which have experienced its extreme effects.

(5.) Fatty degeneration is a frequent result of arsenical poisoning. Probably either it or the preceding condition of granular degeneration always exists.

(6.) The discovery of fatty degeneration post mortem, especially if widely diffused, should be regarded as presumptive evidence of poisoning, and as warranting a thorough chemical examination.

A CASE OF CEREBRAL SYPHILIS, WITH PERSISTENT HALLUCINATIONS OF HEARING.

BY JAMES B. AYER, M. D.

My patient, an unmarried man, twenty-nine years of age, was admitted to the McLean Asylum April 6, 1876.

The family history records insanity in a sister and two aunts, one on the father's and one on the mother's side.

Ten years before entrance he had suffered from depression of spirits, due to a love affair, and had traveled widely in the hope of regaining his former cheerfulness, but had not wholly succeeded when he returned from Europe and settled in the West. He became connected with a banking institution, and enjoyed fair health until two years before entrance, when he contracted syphilis. The chancre was followed by roseola, and in about six months (the date cannot be definitely fixed) symptoms of meningitis appeared, which lasted nearly three months. The patient was treated for syphilis, but how thoroughly and for what length of time is not known.

A few months after the disappearance of meningeal inflammation he gave up business, and returned to New England.

He began to be troubled with hallucinations of hearing, and heard "voices" constantly speaking to him, — urging him to this or that unreasonable act. When controlled by them he would become violent: once he threatened to shoot his doctor; on another occasion he became suddenly enraged, and shook his sister violently. He occasionally realized his condition, and came willingly to the asylum.

During the first two months of his residence there he frequently complained of severe headache, which would sometimes compel him to cry out. He would frequently clasp the back of his head (to which part he referred the pain) between his hands. He also complained of periostitic pains over the tibia, and suffered with attacks of asthma.

The hallucinations of hearing constantly bothered him. He imagined that a *spell* had been placed upon him by his relatives, and that they were influencing him through "some kind of magnetism." Neither up to this time nor subsequently was any symptom of paralysis noticed. He conducted himself in a quiet and gentlemanly manner, and did not seem to require special watching. He was placed upon

℞ Potassii iodidi	gr. x.
Elix. Calisayæ	℥ ss. M.

Ter in die.

After two months he became somewhat morose, and preferred to remain in his room secluded. He began to exhibit dislike towards the physicians of the institution, whom he seemed to regard as agents for his destruction. He treated every one else in a handsome manner, and was not regarded as especially dangerous until September 25, 1876, at which time, while playing croquet in the grounds, he suddenly became infuriated by the *voices* urging him to free himself from those having charge of him. He immediately struck with his mallet one of the physicians, whose back was turned to him, causing serious injury.

I saw the patient three weeks after the assault. He had been placed under constant watch day and night, but had made no trouble. He had been very quiet, and had expressed sorrow, but evidently did not realize the character of his act, and soon ceased to refer to it. It was clear that the patient was in a demented condition, although his countenance showed considerable expression. He always seemed glad to see the superintendent and me, — listening attentively to all we said, and replying intelligently, but generally in monosyllables. He professed to be fond of reading, and would call for books from the library, but, although a book was generally open before him, he made little progress, scarcely turning a page a day.

Patient was myopic, but there had been no change in his sight for many years. Hearing was perfect, and there was no history of any ear disease.

For a while he could conceal his hallucinations, and I was unable to draw out the slightest clue regarding them. He claimed that the *voices* had disappeared, and with them his belief in magnetism. For the first two months of our acquaintance I felt confident that he was acting under the guidance of his imaginary directors, but this could not be proved. Near the end of December, 1876, however, while conversing with him, he suddenly burst out in anger, screaming out that his friends still "controlled" him, and that they and the doctors were leagued together against him. After threatening awhile his anger subsided as quickly as it came. From that time his hallucinations were not so easily concealed.

Once he justified himself for having taken vengeance on one doctor, and intimated that he should take the first opportunity to injure others. After this his insanity became still more apparent. He was noticed to keep his fingers in constant motion, warding off evil magnetic influences.

Last summer he again became crazed with the idea that a plot had been formed against him, and that he must fight to extricate himself. At one time he attacked the superintendent, but, fortunately, was not in a position to injure him. While out for exercise he would slyly pick up pebbles to throw at the doctors.

During the fall he became more confused, and at times was quite incoherent. Early in the winter he grew weaker, and began to complain of pain in the bowels.

This pain he referred to magnetic agents, whom he always spoke of mysteriously as "they," saying that "they" were squeezing up his bowels to hinder anything from passing through; also that "they" would not let him pass water. He spent much time at stool. Rectal examination under ether did not reveal the cause of the constriction.

At length the patient refused to swallow, and was fed through the œsophageal tube. At the same time the pulse became intermittent, ranging between 80 and 120, and he died of exhaustion the following day, twenty-one months after admission to the asylum, and nearly four years after the first appearance of specific disease.

The post-mortem examination was made by Dr. E. G. Cutler, twenty-eight hours after death.

There was good muscular development, with cadaveric lividity of the dependent portions of the body. The rigor mortis was well marked.

Both tables of the skull were somewhat thicker than usual, at the expense of the diploe. The calvarium was heavy and dense; in other respects normal. The dura mater was ordinarily transparent. A recent coagulum was found in the longitudinal sinus. There was nothing special in the pia, except that a patch, the size of a half dollar, over the upper occipital convolutions of the right side was adherent to the brain.

The middle cerebral artery of the right side contained a small spot of chronic endarteritis, which had diminished the calibre of the vessel about one quarter. There was a similar patch in the basilar artery, of somewhat larger size. The intima ran smoothly over these projections. On section they were found to consist of a yellowish-white, opaque tissue, and presented a marked contrast to the surrounding healthy tissue. The convolutions were somewhat flattened; the ventricles contained a trifle more fluid than normal.

Near the longitudinal fissure, in the upper part of the right occipital region, between two occipital convolutions, there was an indurated portion of brain corresponding to the patch of meningeal inflammation. The gray matter was found atrophied to one half its normal thickness. The neuroglia in the white substance beneath was increased, and the white substance exhibited a grayish tint, but nothing else abnormal.

Both lungs were in a state of hypostatic congestion. The bronchial tubes were filled with frothy mucus. A small cicatrix was found at the apex of the left lung.

The stomach, spleen, and kidneys were normal. There was a cellulitis in the connective tissue about the rectum. The prostate was enlarged, and a stricture was found in the membranous portion of the urethra.

To recapitulate: our patient when twenty-seven years of age contracted syphilis. A few months later meningeal inflammation appeared, followed by disturbance of the mind and of the special senses, of a paroxysmal and dangerous character, and accompanied by progressive dementia.

The *clinical history* of the case points strongly to syphilitic disease of the brain.

The pathological appearances, in my opinion, confirmed this diagnosis, although no gummatous tumor was found. The two principal points shown by the autopsy were: *First, localized inflammation of the pia, with adhesion to the subjacent atrophied cortical substance.* It is now known that gummata (I mean the various forms of heteroplastic tissue) are not always found in cases of cerebral syphilis, but (quoting Heubner) instead of new formations we find (in from one fifth to one quarter of all the cases) a *non-specific* inflammation arising from the membranes, and thence carried to contiguous brain substance. *Second, endarteritis* of the basilar and of the right middle cerebral artery from proliferation of cells of the epithelial lining. Heubner has shown that this form of growth, causing constriction in the arteries at the base of the brain, is quite constant in cerebral syphilis, and considers it an open question whether the growth is due to syphilitic disease of the epithelial coat of the arteries, or to irritation from diseased blood.

Treatment: Iodide of potash was given regularly from the date of the patient's admission to the asylum to within a few days of his death, but without perceptible benefit. Bromide of potash and chloral had no effect in controlling the hallucinations. Morphia was not employed in treatment of the hallucinations, the demented condition of the patient and the absence of severe mental suffering counterindicating its use.

It is to be regretted that so little is known regarding the early treatment of our patient.

In a large proportion of cases where syphilis affects the brain the early symptoms of the disease have been slight, and the patient has not undergone a thorough course of mercurial treatment.

RECENT PROGRESS IN THERAPEUTICS.

BY ROBERT AMORY, M. D.

Aconite. — Dr. G. H. Mackenzie, in the Edinburgh University Gold Prize Thesis,[1] presents the record of some experiments on animals which in a measure justify his belief that aconite paralyzes the excitability of the sensory nerve system in the following order: first, the peripheral filaments; second, the trunks; and, finally, the posterior (or sensory) nerve roots. Moreover, the motor tract undergoes a certain functional exaltation, or hyper-excitation, which either from fatigue or otherwise is replaced by a diminution of the motory function, and owing to the paralysis of the inhibitory or restraining nerve influence the muscular contractions are increased. Again, the pneumogastric filaments are at first paralyzed, and thus cause a diminution and subsequent abolition of the ordinary reflex response. Hence he summarizes its toxical action: (1.) The effect on the respiration is primary and due to the direct action of the drug on the sensory fibres of the vagus and the respiratory centre. (2.) It induces a series of symptoms closely resembling those developed after section of the vagus. (3.) It causes death partly by asphyxia and partly by a variety of collapse spoken of by Brown-Séquard as "characterized by a great diminution of breathing, produced by a peculiar influence on the central organs of respiration, the heart continuing to beat with more or less vigor."

Dr. Fothergill's report to the British Medical Association[2] on the antagonism of aconite to digitalis, atropine, chloral hydrate, and strychnine, presents a number of experiments with these drugs on various animals, and summarizes his results in the following deductions: (1.) The minimum lethal dose of Morson's aconitine for a guinea pig of one and a half pounds' weight is one twelve hundredth of a grain, for a rabbit of one and a half pounds' weight it is one four hundredth of a grain, and for a three-pound rabbit one three hundredth of a grain; the difference being due, probably, rather to age than to size. The younger rabbit took a comparatively larger dose. (2.) The minimum lethal dose of digitaline (Smith's) is nearly one grain to the pound weight in the rabbit. (3.) The simultaneous administration of digitaline and aconitine affords no protection. (4.) If digitalis be given in sufficient dose and a sufficient time (from five to nine hours) before a lethal dose of aconitine is administered, a distinct protection is afforded. (5.) When the digitaline is given at a less interval than five hours the toxic action of aconitine is intensified. (6.) Small doses of atropine, given before lethal doses of aconitine, exercise a decided protective influence. (7.) Small doses of aconitine do not appear to exercise any influence over lethal doses of atropine. (8.) Atropine in four-grain doses effectually antagonizes lethal doses of aconitine up to sixteen minutes after the administration of the latter. (9.) Atropine exercises no like influence over lethal doses of chloral. (10.) Strychnine exercises a potent influence over lethal doses of aconitine, but the experiments are too few to warrant very decided conclusions.

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[1] Practitioner for February, March, and April, 1878.

[2] British Medical Journal, August 4, 1877, and May 4, 1878.

Dr. C. A. Wright[1] read an interesting paper before the chemical section of the British Association, in which he stated that aconitum napellus (root) contains three separate alkaloids: aconitine (crystallizable), picra-aconitine (also crystallizable), and a third of lower molecular weight which is incapable of crystallization. The strong mineral acids and other reagents used to extract the alkaloid are likely to cause loss of crystallizable aconitine by alteration and decomposition. He prefers the tartaric-acid process of Duquesnel, but throws away the first rough crystals as being impure, and then separates the two crystallized products by sodic carbonate, and finally recrystallizes by ether.

Alcohol. — A criticism[2] on the third report on intemperance of the select committee of the House of Lords presents the views of prominent physicians upon the physiological and medical effects of alcohol. These views may be briefly summarized: Persons in health are better without the use of alcohol, although neither Dr. Brunton nor Dr. Sanderson "went so far as to say that a small quantity of alcohol was, generally speaking, injurious." "Alcohol is injurious in excessive cold weather, and, as a rule, in excessive heat also." Dr. Brunton refers to the

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[1] Lancet, September 15, 1877.

[2] British Medical Journal, December 15, 1877.

Ashantee expedition to prove "that during a march the use of liquor was found disadvantageous, but that during the rest at an evening meal a little rum, by stimulating the stomach, promoted appetite and digestion; and that this was the case more especially with the older men, in whom the processes of life are less active." About two ounces of alcohol will be generally utilized in the economy of a healthy man, whilst a larger quantity will indicate its presence by the elimination of alcohol in the breath and in other ways.

The abuse of alcohol produces derangements of the liver, disordered blood, and, in consequence, diseased kidneys and lungs. Then we get diseased heart and nervous system. "The general effects are, no doubt, first, congestion of these organs; next, increase of their fibrous tissue, which presses upon the secreting cells and induces general atrophy and fatty degeneration." We will not record the discussion showing the difference of opinion as regards the stimulant or sedative action of alcohol, assuming that this partakes more of a difference in the use of words than in the facts involved in the discussion.

Alcohol in Fever.[1] — Testi Alberico gives as the result of his clinical investigation on the action of alcohol, first, that alcohol does not produce any depression of temperature when given in febrile states of the system, though high temperatures do not *per se* constitute any contra-indication to its use. Second, alcohol as long as it remains unaltered in the system is a powerful dynamic of the vaso-motor nervous system. Third, as a consequence of the changes which alcohol undergoes in the system it indirectly becomes a valuable aliment, whilst it augments the metamorphosis of tissue.

Alcohol as a Local Application in Scalp Wounds. — Professor Gosselin[2] states that his clinical experience proves that the local application of pure alcohol in contused superficial wounds of the scalp promotes rapid healing, which appears to be an intermediate process between direct and indirect cicatrization, as after granulation and suppuration other modes of dressing require the formation of granulations. Such wounds treated by pure alcohol have less tendency to suppuration, are cured quickly, and are less often attended with erysipelas and phlegmonous inflammation.

Dr. Alfred Carpenter, in the annual oration delivered to the Medical Society of London,[3] discusses this question of the use and abuse of alcohol in a strictly non-partisan manner. We wish we could present this paper in its length. We can at best give but a faint outline, and shall mention only what he says of the therapeutical properties of this agent. Dr. Carpenter distinctly states that in certain febrile conditions marked by a dry tongue and skin, with no sickness or signs of cerebro-spinal lesion, alcohol "soon produces a lower temperature, a slower pulse, a moister tongue, and a quieter condition of the system generally." "Internal congestion with unfilled cutaneous capillaries, an enfeebled action of the heart, are assisted by alcoholic stimulation by a kind of vaso-motor paralysis," as he calls it, which relieves the tension of the capillary vessels, and causes a diminution of the obstruction to the flow of blood, and a possible subsidence of the internal congestion. A continuation of this effect would lead to the first stages of tissue change. If the amount of alcohol ingested is at once utilized in the equalization of animal heat no harm can result, but if more than this amount is received into the economy the excess acts immediately on the blood corpuscles by abstracting their watery constituents, and also impedes the purification of the blood and elimination of carbonic acid. In this respect it differs from fat, with which it is allied as a diet, which latter may be stored up in its proper place, whilst the excess of alcohol is always stored in the tissue of an organ. He further adds that the poisonous nature of alcohol in large and continuous doses has never been doubted.

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[1] Il Raccoglitore, Nos. 10, 11, 1877, and Practitioner, March, 1878.

[2] Gazette des Hôpitaux, August 2, 1877.

[3] British Medical Journal, May 18, 1878.

Chloroform in Neuralgia. — M. Besnier[1] calls attention, among other references, to the reports of the Boston City Hospital service,[2] as showing the utility of the hypodermic injection of this remedy. Desirous of preventing the inconveniences attached to "acute or chronic morphinism," he would substitute the use of chloroform for morphine in any form of pain, and not limit its application simply to neuralgia. He proposes as the only proper method of hypodermic operation to insert the needle point before attaching the syringe, afterwards to screw on the syringe containing the chloroform, and immediately to introduce this substance under the skin into the cellular tissue; if, however, a drop of blood follows the insertion of the needle point the latter should be withdrawn, as this would show that the subcellular tissue or a vein had been punctured. He says that the "subcutaneous cellular adipose tissue" is insensitive, and very rapidly absorbs chloroform without "physiological or other inconveniences." If the chloroform has become impure (acid, for instance) it will cause pain at the place of introduction. M. Hardy[3] reports that chloroform kept for a little while, especially in a warm and light place, will become acid. The injection of one gramme produces a local anæsthesia which may gradually extend for a short distance from the point of injection. The sample of chloroform for hypodermic use should always be tested by litmus paper, and if found acid it will assuredly cause pain at the place of introduction; care should be taken not to inject into a vein or below the layer of adipose tissue.

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[1] Gaz. méd. de Bordeaux, January 17, 1878, page 34.

[2] Vide JOURNAL, May 25, 1877.

[3] Idem.

That chloroform can be rapidly absorbed when locally applied was proved by the reporter[1] in certain experiments on animals, in which, ten minutes after the subcutaneous introduction, the vapor of chloroform was detected by an analytical test in the expiratory exhalations of the animal.

Ergot, Ergotine, etc. — M. Tauret, of Troyes, reported to the Académie de Médecine some experiments with the active principle of ergot, and his deductions are the subject of an editorial.[2] The process by which M. Tauret separated these reputed active principles has not been perfected, nor its details published. However this may be, he states that his crystallized "ergotinine" gives the reactions of an alkaloid; that it is white, insoluble in water, but soluble in alcohol or ether; it absorbs oxygen from the air very rapidly, and becomes transformed under the influence of light into a dark resinous substance; it makes a stable compound with narcotin, but combines so feebly with acids that their crystallized salts are not very stable; if this ergotinine be dissolved in a small amount of ether, and sulphuric acid (diluted to one seventh) be then added, the mixture assumes a reddish-violet tinge which afterwards changes into blue. This alkaloid is contained in ergot in the proportion of one to a thousand. A dose of two to four milligrammes produces similar effects on the uterus to those following the administration of thirty to sixty grains (about two to four grammes) of ergot.

Dr. Coghill[3] reports a case of exophthalmic goitre in which he used subcutaneously Savory and Moore's gelatine and ergotine discs. He began with one third of a grain (about two milligrammes), and gradually increased the dose to one grain (six milligrammes). The fluid extract of ergot failed to produce any beneficial effect on the enlarged gland, but after the use of the ergotine "the tension and vascular enlargement rapidly subsided." The nutrition of the whole body seemed affected during this treatment, as the patient lost fourteen pounds' weight without corresponding loss of strength or other deterioration of health. This method of treatment was first suggested by Hildebrandt, of Königsberg. Dr. Grose[4] speaks of the great advantage of using the above-named ergotine discs for hypodermic injection, severe uterine hæmorrhage being quelled five minutes after its administration by this method.

Dr. Roland Curtin[5] also used the hypodermic injection of ergotine (ten minims of a solution having a strength of twelve grains to a drachm) two or three times a week. After a period of four or six months the gland, which had at first hardened, began to shrivel, and very soon after returned to its normal size. The injection was attended with very little pain, which if it existed at all was usually local and confined to the origin of the sterno-cleido-mastoid muscle. Most of his cases, twenty-four women, had uterine complications. His experience would suggest that ergotine is only of value in simple hypertrophy of the thyroid gland. It is well to observe here that many of the so-called specimens of ergotine are worthless, and that Dr. Squibb, of Brooklyn, has endeavored to meet this want by preparing an aqueous extract of ergot,[1] about five times the strength of ergot and of the same strength as the fluid extract of ergot (or grain for minim). The solution of this solid extract in water causes no local inflammation after its hypodermic use.

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[1] New York Medical Journal, June, 1872, page 619.

[2] Le Mouvement médicale, November 14, 1877.

[3] Lancet, August 4, 1877, page 158.

[4] Idem, November 17, 1877, page 723.

[5] Medical Record, 1878, page 335.

(To be concluded.)

ANNUAL MEETING OF THE ESSEX NORTH DISTRICT MEDICAL SOCIETY.

May 1, 1878. After the transaction of the ordinary business, Dr. J. R. Nichols read a paper on Florida as a Health Resort, since published in the *Boston Journal of Chemistry.*

Dr. Otis Fernald, of Haverhill, read a paper on Nervous versus Blood Diseases, of which the following is an abstract: Successful therapeutics is dependent on accuracy in diagnosis and a correct knowledge of the causes of disease. We are probably looking in a wrong direction for the first cause of many of our so-called blood diseases, while we are bestowing too much attention upon the actual lesion, ignoring the importance of its ætiology. Often the most prominent symptoms are really of but secondary importance, that is, brain symptoms in carditis, hydrocephaloid in enteritis of children, or functional disturbance of the heart in organic disease of the kidneys. The tendency of modern thought is to locate the trouble in the blood, and to regard the nervous system as of secondary importance.

The present epoch in medical science is peculiarly fertile in the means of investigation, and our researches are not considered complete unless the blood and secretions are subjected to microscopical analysis. In this way ancient theories and landmarks are being supplanted by new ones, and on account of the avidity with which the modern theories are received there is danger that more or less of error will find acceptance which must necessarily lead to faulty therapeutics.

The reader recognized the immense utility of modern investigation into the causes of disease, but protested against accepting all the conclusions as a basis of practice. Important practical results have incidentally followed the search after evidence in support of some preconceived theory. The science of astronomy was the outcome of astrology. Chemistry was the fruit of the vain pursuit after the philosopher's stone.

It is an indication that something is wrong when we claim to know so much about disease, and yet our therapeutics occupies such a subordinate position.

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[1] Vide Proceedings of the American Pharmaceutical Association for 1874.

The theory of "peccant humors" requiring to be expelled from the body, which prevailed in Cullen's day, is just as dominant now, and "blood poison" is a stereotyped phrase and common explanation of the cause of most diseases, while the nervous system is relegated to a subordinate position. "Blood-cleansing medicines" are still the popular agents in the treatment of disease. "Blood poison" should *generally*, at least, be considered an *effect* rather than a cause, and our remedies ought to be directed to the vital elements of the nervous system and the chemical constituents of the blood. Whether the researches of Professor Salisbury are true or not, they will prove useful by leading us to search elsewhere for truth. He finds, in all diseases, the causes in the blood, in the form of animalcules or fungi. Admitting the truth of their presence, may they not be an effect rather than a cause, or at most no more than a coincidence? Sulphate of quinine, the most effective remedy against intermittent fever, must produce its effect in some other way than by entering the circulation and chemically destroying the poison supposed to be the cause of the disease. Our knowledge of the minute organisms called cryptogamic fungi and animalculæ is so limited that there is not sufficient reason to connect their existence with disease in any way. Certain so-called blood diseases are more promptly relieved by medicines which act specifically upon the nervous system. Inflammation is but a modified nutrition of the part, and its phenomena are the accidents and not the essence of the process. Scrofula and tuberculosis are likewise regarded as the product of malnutrition, developed usually in a system tainted through heredity. The ancients believed that gout and rheumatism were due to "peccant humors" which were distilled "drop by drop" into the joints. Uric acid is the "peccant humor" of the present day in these diseases. If they depend on uric acid for their cause, why does not the alkaline treatment uniformly cure them? Dr. Fuller, of London, finding that carbolic acid removes the urates in the urine, was disappointed in his expectation that it would control the formation of uric acid and cure the gout.

Would it not be more logical to regard these diseases as the result of faulty nerve structure or function? The action of the galvanic battery in the decomposition of chemical compounds and the formation of other compounds may be analogous to the action of the nervous system, and no doubt the latter is chargeable justly with the production of morbid products in the blood. It is the nervous system which controls and directs the functions of the heart and blood-vessels, which determines the character and quantity of the various secretions of the body. Healthful secretions depend on the healthy condition of the nervous system, and *vice versa*. Illustrations of this fact may be found in the earthy phosphates formed in the kidneys after injury to the spinal cord, in the flow of saliva at the thought of food, in the excessive secretion of urine n hysterical paroxysms, in the effect of emotions of grief or passion on the secretion of milk, etc. These, with many other instances which might be mentioned, prove the dominant influence of the "vital force." In what manner this effect is produced we are as ignorant as is the chemist of the manner in which electricity decomposes his chemical compounds.

The general subject of the paper was illustrated by the history of a case of aphonia, of seven years' duration, following an attack of fever. Excessive functional derangement of the stomach, sleeplessness after any excitement, with an extreme amount of pain without any appreciable cause, were the prominent symptoms. Tenderness of the whole spine accompanied the catamenia, which were regular, but painful and often excessive.

The symptoms indicated uterine disease, and this diagnosis was confirmed by an examination, which disclosed the existence of inflammation of the os and cervix.

Treatment soon relieved the local symptoms and the accompanying dyspepsia, and consisted of tonics and the local application of leeches, caustics, and astringents. The patient was discharged in two months, entirely cured of the aphonia.

Dr. Hurd, of Newburyport, remarked that the essay served to bring to remembrance the old controversy between the humoralists and the solidists. He did not agree with the essayist that the tendency of modern ætiology was to locate disease in the blood, while nervous lesions were considered of secondary importance. Modern therapeutics emphasizes the action of the drug on the nervous system, and it is especially since the wonderful discoveries of Claude Bernard, Velpeau, and others in the vaso-motor system of nerves that the *modus operandi* of remedial agents has begun to be understood. There is nothing really subtle about life but the evolutive force. (Here he alluded to a recent paper on Life by the late Claude Bernard, in the *Popular Science Monthly* supplement, in which the great savant had conceded this.) He affirmed that the doctrine that a mysterious metaphysical entity lies behind the molecules of the nervous system, which through the nervous system controls all physiological and pathological processes, is a relic of barbarism. The nervous system derives its structural integrity and its properties primarily from the undifferentiated protoplasm out of which it is evolved, and secondarily from the nutritive materials supplied to it from the blood. Give the nerve centres bad blood, and they will respond badly to excitations. Materially change the nutritive fluid, and a deteriorated nerve force or none at all will be evolved. A healthy state of the nervous system implies a healthy state of the blood; and not merely this, but a healthy state of all the tissues, for the human organism is a solidarity.

Dr. Nichols, of Haverhill, thought that the tendency of modern thought was largely in the direction indicated by Dr. Hurd. It is quite proper to explain the less understood processes by those that are better understood, and to get visions of the unknown from the stand-point of the known. Claude Bernard was a revolutionist in thought, but in conceding "an evolutive force" he had conceded a great deal. There are, moreover, certain potencies of the nervous system that we cannot well explain. He himself had the power, by an effort of the will, to prevent the physiological action of a large dose of morphia. By a similar effort of the will he could excite his salivary glands to action. The effects of fear, hope, and other emotions on the organic processes are well known.

The president, in reviewing the remarks of Dr. Hurd, thought that the term "evolutive force" might be made to cover all that the supernaturalist would claim.

PROCEEDINGS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

EDWARD WIGGLESWORTH, M. D., REPORTER.

August 28, 1878. The second day opened with a business meeting. It was agreed to meet upon the last Tuesday in August, 1879, at New York. The officers elected for 1878–79 are: president, L. A. Duhring, of Philadelphia; vice-presidents, J. N. Hyde, of Chicago, S. Sherwell, of Brooklyn, N. Y.; secretary, R. W. Taylor, of New York; treasurer, J. E. Atkinson, of Baltimore. As active members were elected, Drs. E. B. Bronson, of New York, F. B. Greenough, of Boston, G. H. Rohé, of Baltimore.

The first paper was by Dr. Duhring, A Case of Inflammatory Fungoid Neoplasm, extremely interesting; reserved for publication.

In the absence of W. A. Hardaway, of St. Louis, his paper, Treatment of Hirsuties, was read by the secretary. A needle was to be inserted into the hair follicle, and then a galvanic battery employed, thus cauterizing the hair follicle. Or a needle might be used simply moistened with a solution of chloride of zinc, one gramme to twelve grammes of water. Then the hair could be easily withdrawn.

Dr. Piffard had used galvanism. He drew the hair first. He used iridio-platinum wire. If attached to the positive pole a scar is left. He operates only upon large medullate hairs, not upon downy ones. It is not needful to hit the follicle exactly. Hill's battery, eight to ten cells, is applied for half a minute on the average, or until a white line is formed one half mm. around the follicle.

Dr. Fox uses the plan of Dr. Piffard. The operation is very trying to the eyes of the physician; more so than to the nerves of the patient.

Dr. Heitzmann used a nickel-plated pin and fuming nitric acid, inserting it deeply, and destroying some fifty hairs at a sitting. The pain is trifling, with some hæmorrhage. The hairs return after four months.[1]

Dr. White alluded to the necessity for destroying the follicle as well as the papilla, if, as some anatomists say, a follicle may form a new papilla, and this a hair. He had used chloride of zinc, but the effects had been such that he would not try it again.

Dr. Duhring destroyed follicles and papillæ of many hairs at one sitting, with only slight pain, by means of a three-cornered needle inserted and revolved until a drop of blood appeared. When the hairs were large the results were fairly satisfactory.

3.30 P. M. Dr. Piffard read A Case of Gangrænopsis. A syphilitic child was treated by mercury at the hospital. In two days a nodule appeared near the ala nasi, and in twenty-four hours broke down and became gangrenous, spreading rapidly over the nose and face. A hypodermic injection of quinine was administered, and the point of insertion became a centre of gangrene. The child died. There was necrosis of the malar and other bones, partial pneumonia, with some centres of gangrene in the lung, and the blood was like cherry juice. Dr. Piffard was inclined to regard the case as one of pustula maligna, or else due to mercury.

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[1] Concluded from page 346.

Drs. Heitzmann, Duhring, and others regarded the case as noma (cancrum oris) and disagreed with the writer as to the possibility of such symptoms as these being ever due to mercury.

Dr. Sherwell read a paper upon The Use of Linseed and Oil as Therapeutic Agents in Diseases of the Skin. These are used to give glossy coats to animals, are fattening and laxative. The seed from Bombay is larger, and contains more and sweeter oil. He gives this seed to men to carry in the pocket and eat at intervals; to women and children as a bread or a porridge with milk. The taste is not unpalatable. It is of value when the skin is dry and harsh, when the oil may be used externally.

Dr. Piffard understood that linseed bread could be made so as to contain no starch, and might therefore be used in diabetes. The oil contains no iodine, and may be therefore more fattening. The seed makes a lighter bread than pure white flour, since it is so oily that it contains its own "shortening."

Dr. Atkinson then read a valuable paper upon The Botanical Relations of Trichophyton (tinea tonsurans). He said: —

Previous investigations into the botanical relations of the microscopic vegetations giving rise to certain skin diseases have been fallacious on account of the faulty methods employed. Cultivation upon sliced vegetables, as carrots, apples, etc., so inevitably become overwhelmed by adventitious growths as to make a definite conclusion from them impossible. But little less objectionable are the slide and mass cultures employed by recent mycologists, since there must necessarily occur far too frequent exposures in the repeated uncovering of the objects for investigation, etc. A method guaranteeing absolute purity to the cultivation is that employed by Van Tieghem and Le Monnier in their researches into the Mucorini. This plan is as follows: —

A glass ring, four to five mm. in height, with an interior diameter of about fifteen mm., is fastened to a glass slide by means of Canada balsam; the spore to be cultivated is then sown in an appropriate nutritive fluid upon a very thin cover-glass, the diameter of which is equal to that of the glass ring. The cell is then completed by laying the cover-glass, with the nutrient drop underneath, upon the glass ring; a few minute drops of oil upon the surface of the latter, upon which the cover-glass rests, serve to protect the cell from external influences. All fluids and appliances must be as pure as it is possible to make them. This method may be called the "cell culture." In a cell like this a very small portion of hair-shaft, drawn from the follicle, is sown; the nutritive fluid being either orange juice, Pasteur's fluid with or without sugar, decoction of horse-dung, or any other approved fluid, the first two being preferable.

In a majority of cells thus planted there will be no change; some will develop bacteria or molds of adventitious nature. In a few cells a mode of development will take place which is characteristic of the fungus of trichophyton, and can readily be distinguished from foreign fungus, the latter either thrusting its hyphæ under the cover-glass, or developing within the cell from a single centre and being readily discoverable, the mass of trichophyton spores remaining entirely quiescent. Where, however, the cultivation is a successful one there is a simultaneous, uniform, multitudinous growth of hyphæ, accompanied sometimes by a decided swelling of the spores, which may become of many times their original size (*figure shown*); the latter, however, soon ceases as the growth of hyphæ becomes vigorous. This activity begins to show itself at the end of from twenty-four to thirty-six hours, or even later, and is completed in about ten days. Where the nutriment has been abundantly supplied, the tendency of the hyphæ is to form a dense mycelium and but few reproductive organs. In cases where the nutriment soon becomes exhausted, these organs appear more speedily either with or without the development of septa in their hyphæ.

These reproductive organs are sporangial in character, and occur in the case of the mucors. They do not often, however, produce perfect sporangia, the columellæ being frequently absent, or flat instead of conical, and the formation of spores being very limited. It is well known that under certain unfavorable influences mucor may be arrested or deformed in its growth.

Another kind of growth is an indication but not a completion of the broad cell formation of certain forms of mucor consisting of a centripetal segmentation of the hyphal ends. Under more favorable influences these segments probably become separated, which condition occurs almost certainly in the growth in the hairs upon a patch of tinea tonsurans. The fungus unquestionably belongs to the mucors, probably to the mucor mucedo.

That, in the very much larger proportion of cells, the sowing can be effected so as to secure an absolute freedom from other spores is proved by the fact that in those cells the spores of which did not germinate it was the rarest occurrence to observe any other growth. Bacteria most frequently occurred; penicillum very rarely, in a manner widely different from that of the trichophyton, and always from one or two centres, whereas the latter invariably showed a medusa-like growth of a multitude of the spores, which could be traced even from the first signs of vital activity.

In no case of successful cultivation was any other result obtained than the one shown and reported. The difficulty with which the spores germinated made the sowing of a small portion of hair-shaft preferable to the planting of a single spore, since the chance of selecting a viable one was infinitely small, and the characteristic, uniform mode of growth was regarded as most positive evidence.

These results were also obtained in "slide cultures," but were recognizable in the mass of adventitious growth only through the knowledge gained in cell cultivation. The method is one easily practiced, and requires only care, attention, and perseverance in spite of many disappointments arising from the tendency of the spores to remain quiescent.

The last paper in this session was by Dr. Van Harlingen, A Case of Ulcerative Scrofuloderm, and is reserved for publication in the *Archives of Dermatology.*

August 29, 1878. The association met at ten A. M. The exercises began with a paper by Dr. R. W. Taylor, entitled A Further Contribution to the Study of the Xeroderma of Hebra, based upon cases described at the last annual meeting. The name is a bad one, and often confounded with xerosis. The name proposed by the committee on nomenclature is Dr. Taylor's title, — Angioma Pigmentosum et Atrophicum. There is first an erythematous or vascular condition in small reddish spots, which become pigmented later, though some may be brown from the first. In the red spots of longest duration the atrophic changes take place. Within an area of three centimetres red spots will come and go, brown ones will come and go, and where brown ones were red ones will appear in turn. Thus arise the atrophic changes, there being at first a proliferation of new cells and a deposition of pigment, and then degeneration with absorption and cicatricial formation. Where the atrophy is marked there is no further deposition of pigment, and even previous coloration disappears, the calibre of the blood-vessels being obliterated by compression. Vascular regions subjected to tension, such as the cheeks over the malar bones, the forehead, etc., are the parts most commonly affected. Of the portion attacked only about one fiftieth atrophies, giving the "parchment skin," showing xeroderma to be an inappropriate designation. In some cases there occur upon the face tumors composed of blood-vessels and inflammation cells. These have been regarded as epitheliomatous, but may be only inflammatory growths. The disease may end in early life without harm, except pigmentation, which seems to endure indefinitely, and may even make the patient hideous.

Dr. Heitzmann, who was the first to see and diagnosticate these cases in consultation, thought that the disease invaded by preference parts of skin exposed to the light. Cases vary in severity. He recognized the epithelial variety beginning as a sort of raised freckle, gradually increasing in height and depth, and finally ulcerating, and even becoming the superficial form of carcinoma of the skin. This accords with Kaposi's views. Dr. Heitzmann has a mild case, with a favorable prognosis, at present under treatment by the scraping spoon. The patient's general health is excellent.

Dr. Duhring has under treatment a case of seventeen years' standing, but still of the mildest form. Here pigmentary lesions were the first to appear. On the mammæ and legs there are spots like lentigo, but no vascular growth.

Dr. Taylor added that mothers usually regarded the disease at first as sunburn; then later they called in some physician, who generally pronounced it measles. He himself did not at first recognize the initial red spots, but had now been able to observe their appearance, and to study them with a glass, in a good light, and verify their existence. The cause must be nervous or vascular. Later the pigment may resemble, and even be dug out like, grains of gunpowder.

Dr. Heitzmann stated that the tissue between the vessels in these cases is myxoma, and the process a myxo-angioma. Myxoma is a new formation, not an inflammation tissue, and often occurs with angiomata. He would accept the new designation.

A paper by the president, Dr. J. C. White, A Case of Recurrent Cutaneous Hæmorrhage with Urticarial and Bullous Efflorescence, was next in order, but this was by his kindness and upon his suggestion read by title only, to gain time for the report of the committee upon nomenclature. This committee had been appointed in accordance with his suggestion, — first to the International Medical Congress, and then to this association. As chairman of it he now presented for adoption the scheme agreed upon. This was adopted after discussion, and will be printed. After the retirement of the old and the induction of the newly elected officers, the association adjourned, to meet in New York upon the last Tuesday of August, 1879.

THE LAW OF POPULATION.[1]

THIS pamphlet, as every one knows, has achieved great notoriety, — a notoriety, it must be added, of a most pernicious and regrettable kind. Whatever regrets, however, its publication and its extensive circulation must have caused all decent people, we are hardly so simple as to expect the author and publisher to share them. They have, no doubt, abundant and substantial reasons of their own for feeling eminently satisfied with their undertaking.

The pamphlet is simply a nasty thing, and there can be little doubt but that it has been bought and read chiefly by nasty people for the sake of its nastiness. Whether such readers, however, were rewarded by finding in it exactly the kind and amount of nastiness they looked for is perhaps doubtful.

This said, we will add that the work is by no means badly executed. The argument, such as it is, is clearly and forcibly presented, and the ingeniously perverse fallacy which underlies it is set forth in a way that might go far to unsettle the judgment of careful and reflecting readers, if one could imagine it likely that the book should have found its way into the hands of such. There is, however, but little danger to be apprehended from the effects of any of the *arguments* advanced in this tract. Of the many readers who have so greedily devoured its contents very few can have cared to follow out or try to understand the argument which it is its ostensible object to set forth. Their interest lay in another direction.

Admitting that such a book might possibly have been written in all sincerity, for the purpose of elucidating a social problem and of inculcating salutary though disagreeable truths, there is an obvious difficulty in the way of those who seek reform in such matters in the manner adopted by Mrs. Besant. Such is unfortunately the well-known natural depravity of mankind — unsuspected, perhaps, only by a few social reformers and publishers — that such books as this inevitably find their way into the hands of others than those to whom they are ostensibly addressed. The buyers and readers of books on this and other kindred subjects are, with few exceptions, found only among those who are personally unconcerned in the questions at issue, incapable of comprehending the problems raised or the solutions proposed, and in no position to avail themselves of the proffered remedy. In a word, such a book, though purporting to be written for the serious edification of fathers of families, in reality finds its most numerous and eager readers among idle and dissolute men, and among dirty-minded boys and girls. This unfortunate result, we repeat, is inevitable, whatever may have been the intentions of author or publisher. This class of buyers, however, is so extremely numerous, and so feverishly eager to gratify its vicious tastes, and the trade in prurient literature is consequently so remunerative, that it is not easy in such cases to believe that author and publisher do not know pretty shrewdly what they are about, however skillfully the real character of their publication may be dissimulated.

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[1] *The Law of Population: Its Consequences and its Bearing upon Human Conduct and Morals.* By ANNIE BESANT. Authorized American from the twenty-fifth thousand, English edition. New York: Asa K. Butts. 1878. Pp. 47.

It is unnecessary to attempt any discussion of the questions raised in this pamphlet. We will only say that in it the Malthusian doctrine of the inadequacy of the obtainable means of subsistence for the wants of growing mankind is set forth, and the necessity of curtailing births is inferred. The remedy proposed for the ills of mankind is simply — we can mention it in these pages without offending decency — the prevention of impregnation by means of a sponge inserted in the vagina before indulgence in the sexual act. Such is the procedure recommended to married men and heads of families — after full consideration of all the other possible means and precautions whereby copulation may be rendered sterile — by "the eloquent lady who wrote this work," as the author is styled in the publisher's note.

It is a familiar fact to those who have to become acquainted with human nature in all its phases, that women, when once they have departed from the traditions of feminine decency or virtue, are very apt to lose even the most elementary sense of propriety, to throw over every restraint, and outdo the other sex in boldness and immodesty. It is this infirmity which renders the doings of certain unsexed women so injurious to the very cause they have at heart to advocate and help, namely, the so-called emancipation of women. Another illustration of this mischievous tendency is exhibited in certain "drawing-room lectures" on nursing, recently advertised to be given in London by a lady to ladies, in the programme of which the following items of instruction figured: "Obstetric nursing. Syringing per vaginam. Passing speculum. Method of passing vaginal tube. Various applications for syringing. Plugging and, when required, leeches to os uteri. *Removal of syphilitic growths*," etc., etc.[1]

Now, in answer to all this revolting nonsense, we would say that we do not believe that married men and fathers of families want "Annie" Besant or any other "eloquent lady" to teach them how they may copulate to the best advantage, — for, in plain English, that is what the author of this pamphlet undertakes to do. We think that all the rigors of the law regulating obscenity should be brought to bear in such cases, and that where the law fails to afford a check, public opinion should be aroused to a full comprehension of its duty against this singularly indiscreet class of transgressors.

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LESSONS IN LARYNGOSCOPY.[2]

The only change made in this second edition of this well-known manual, which appeared originally in 1873, is an improvement of the coloring of the plates. It has the very serious and very annoying deficiency of wanting both table of contents and index.

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[1] See the Lancet, May 18, 1878, page 734.

[2] *Lessons in Laryngoscopy: Including Rhinoscopy and the Diagnosis and Treatment of Diseases of the Throat.* By Prosser Jones, M. D., M. R. C. P., etc. Second edition. Illusrated with colored plates. London: Ballière, Tindall, and Cox. 1878. Pp. 176.

THE FUNCTIONS OF MEDICAL EXAMINERS.

THE Concord *Freeman* of August 29th contains the following item: "Wm. Martin, twenty-six years old, rushed from his solitary cell on the afternoon of the 20th, when the door was necessarily opened by the officers, secured a knife and hook from a shop, and ran for his cell, at end of upper corridor, west wing, and though summoned to give up his weapons refused to do so, advanced against his pursuers, and was mortally shot by officer Owens through the liver. He lived till Thursday morning, having had the presence of his mother, aunt, and spiritual adviser prior thereto. Body sent to Newburyport.

"Medical Examiner Barrett rendered a verdict that the man was shot by the officer in self-defense, and further examination was unnecessary."

If there was any one thing which particularly commended the change from the coroner system to that now required by the statutes it was the assignment of the different questions in a case of supposed death by violence to the professions competent to decide those questions. It was the curse of the old system that the coroner was the medical expert witness, the judge, the prosecuting attorney, and oftentimes the jury; and it is the chief merit of the new system that under it the medical man has simply the duties of a medical man to perform, and all questions of law are to be determined by a judge, an expert in the law. Now if the above-quoted item is correct, as there is every reason to believe it is, and such a proceeding on the part of any medical examiner is allowed to pass without comment, it will be but a short time before we shall be in a condition a thousand times worse than ever in regard to the investigation of violent deaths. The old juries, stupid, incompetent, possibly sometimes corrupt, were certainly, as a whole, less likely to come to a decision entirely wrong in a given case than would be a single bad man, who by some chance had secured an appointment as medical examiner. The language of the statute now in force is perfectly plain. Section 9 provides, "If upon such view, etc., he shall be of the opinion that the death was caused by violence, he *shall at once* notify the district attorney and a justice of the district, police, or municipal court for the district or city in which the body lies, etc." Section 10 provides that "the court or trial justice *shall* thereupon hold an inquest, etc." There is no discretionary power whatever in this matter left to the medical examiner. Now in the case of William Martin there could be no shadow of doubt that his death was a death by violence, and a death by violence not only within the letter but within the meaning of the statute. It is claimed with good show of reason that the law did not contemplate an inquest in every case of misadventure simply where the death was "violent" in contradistinction to "natural," but that it only intended to provide for inquests where the death being a violent death might have resulted from the act or carelessness of some other person, the question of how far that act or carelessness was criminal being left to the judge. But at the State Prison the man was shot down by an officer, and it was clearly an act of violence proceeding from some other person that caused the death. There can be no doubt whatever that the *personal* judgment of the medical examiner was correct, nor is it to be doubted that an inquest would have resulted in a verdict of exculpation for the officer; but it was the *official* action of the medical examiner which was wrong, — wholly wrong, and in express violation of the provisions of the statute under which he holds office. He had simply to determine the question of violence. Having determined that point, he had no power to say whether such violence was criminal or justifiable; that is the business of those whose professional training fits them to decide such points. Dr. Barrett's motive and intentions in the case cannot be called in question, but it is exceedingly unfortunate that a man of his position should have made such a mistake, which if allowed to pass unnoticed might induce others to believe that they also had judicial functions; and finally some bad man, under the cover of precedent, and for motives of emolument or self-advancement, would be enabled to cover a crime of almost any enormity, or allow the criminal to escape. If the statute is complied with, such an abuse is absolutely impossible. It is to be hoped that a similar item may not be seen again in any newspaper of this State, and that the medical examiners will have regard enough for the law and the success of the system, which has already shown itself to be vastly superior to any former method of investigation, to confine themselves strictly to their own functions, without assuming those which belong to another officer of the law.

MEDICAL NOTES.

— Messrs. William Wood & Co., of New York, propose to issue a monthly series of volumes, during the coming year, to be sold at the very moderate price of one dollar each. Subscriptions only for the entire set will be received. This includes such books as Hilton on Rest and Pain, Edward Ellis's Manual of the Diseases of Children, Tait's Diseases of Women, and Diseases of the Intestines and Peritoneum (taken from Reynolds's System of Medicine). This we consider a move in the right direction, and one which will prove profitable to both publisher and purchaser.

— From Dr. J. B. Hamilton, surgeon Marine Hospital Service, we learn that at the last session of the medical examining board of the United States Marine Hospital Service, held in Washington August 5 to 11, 1878, thirteen candidates presented themselves for examination out of thirty-one applicants; of those who appeared three were found qualified, and have just been appointed assistant surgeons.

— Ovariotomy in a child eight years old was recently performed with success by Spencer Wells. — The University of Edinburgh has conferred the honorary degree of LL. D. on Dr. Risdon Bennett, Sir Joseph Fayner, and Professor Lister. — Dr. John Sibbald has been appointed commissioner in lunacy for Scotland *vice* Sir James Coxe, recently deceased. — M. Moussous has been made professor of the obstetric clinic in the faculty of Bordeaux in the place of M. Labot, deceased. — During his life Rokitansky performed no less than thirty thousand autopsies. — Pasteur has been made foreign associate of the Royal Academy of Sciences in Stockholm.

— The Cincinnati *Clinic and Lancet* says Dr. Tower believes that when once yellow fever has become epidemic in a city the unacclimated have no security except in flight. In his opinion there are no cities out of the Gulf States in which it can in any sense be said that citizens are acclimated to yellow fever.

LETTER FROM RHODE ISLAND.

Mr. Editor, — The sixty-seventh annual meeting of the Rhode Island Medical Society was held in this city on the 12th of June last. A noticeable feature of the meeting was the large attendance of members from the rural districts. Our State being small, the society is not divided up into county societies like that of Massachusetts and other large States, but meetings are held four times a year, usually in Providence. As many of the out-lying towns are not of easy access to the city, the presence of so large a delegation from the country shows a commendable degree of fraternal feeling and professional interest among the members, and promises well for the advancement of the profession in this State. The annual meeting is intended principally for the transaction of business, while the quarterly meetings are devoted to the reading of papers and the discussion of medical topics. So well was this purpose carried out this year that there was very little in the proceedings which possessed any general interest.

The meeting was called to order by the president, Dr. Charles H. Fisher, of Scituate, and after a few words of welcome and congratulation from him the society proceeded to the hearing of the reports of committees and the transaction of various business matters. The report of the trustees of the Fiske fund showed that the prize of two hundred dollars had been awarded to George E. Waring, Jr., of Newport, for an essay upon The Causation of Typhoid Fever.[1] This is the first time since the establishment of the fund that a prize has been awarded to a person outside the ranks of the medical profession. The subjects proposed for next year are: (1.) The Artificial Feeding of Infants. (2.) Cholera Infantum: Its Causes, Diagnosis, and Treatment. (3.) The True Value of Electricity in its Application to Surgery. For the best essay upon either of these subjects a prize of two hundred dollars is offered.

The next business was the report of the board of censors. The only point of interest in this report was the judgment of the board in regard to a case of alleged violation of the code of ethics, in which the complainant charges a member of the society with visiting and prescribing for a patient whom he knew to be under the professional care of the complainant at the time. The board of censors reported that they found the charge substantiated by the evidence offered, but as the respondent wished to submit further evidence of his innocence, all action in the matter was postponed to the next quarterly meeting. Another case very similar to this is now before the board of censors, in which the parties concerned are two physicians of the neighboring town of Pawtucket. While it is extremely unpleasant to witness disagreements between members of the same society, it is gratifying to the greater part of the profession to know that the society is ready to take cognizance of such breaches of professional etiquette. For a long time it has been evident that many of the older members have felt great unwillingness to enforce the code of ethics, and its frequent violations have passed unnoticed. But of late the younger portion of the profession, who have most need of the protection afforded by a strict enforcement of the code, are showing a disposition to require a more rigid observance of it, and as they hold the "balance of power" we may reasonably expect that so desirable a result will be accomplished. To illustrate the indifference which has prevailed in regard to the requirements of the code, I will relate a case which has attracted considerable attention here during the past year. A physician came to this city from a town in Massachusetts, and entered the office of one of our oldest regular practitioners. In a few days after his arrival he published in a daily paper an advertisement in which he stated that he was a member of the Massachusetts Medical Society, that he had practiced eleven years in Massachusetts, and that he could furnish the highest testimonials of his success in the treatment of disease. At the quarterly meeting of the Rhode Island Medical Society in March, 1878, he applied for admission, and the board of censors recommended him, although their attention had been particularly called to the objectionable advertisement. Upon taking a vote of the society, however, he failed to get the requisite number of ballots, and consequently was not admitted. In the mean time he had left the physician whose office he had first entered, and soon after the refusal of the society to admit him to membership he was taken into partnership by another member of the society, with whom he still remains. The question now arises whether the society has a right to permit one of its members to maintain professional relations with a physician who has been pronounced irregular. As the board of censors has taken no notice of this palpable violation of the code it is to be inferred that they see nothing objectionable in it.

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[1] See Journal, July 18 and 25, 1878.

After the report of the board of censors, the annual election of officers was held with the following result: president, Dr. E. T. Caswell; first vice-president, Dr. George P. Baker; second vice-president, Dr. Charles O'Leary; secretary, Dr. W. E. Anthony; treasurer, Dr. C. H. Leonard. It is customary for the president of the society to prepare an address to be delivered at the annual meeeting, but owing to the amount of business to be transacted this address is usually either omitted altogether or postponed to the next quarterly meeting. The president announced that the latter course would be adopted this year, and thus our annual meeting was deprived of the only feature which would render it interesting to an outsider. The society then adjourned to the Narragansett Hotel to partake of the annual dinner, which was, as usual, a thoroughly enjoyable affair. The post-prandial speeches were of a high order, notably so that of Dr. Fifield, of the Boston City Hospital, whose remarks elicited a round of well-merited applause.

Last spring the legislature of this State established a board of health, consisting of six members, four of whom are physicians. This movement had been urged forward for a long time by a number of the medical men of this city, who felt that a large field was open for the work of such a body. The duties of the board, as set forth in the act, are essentially the same as in other States where boards of health have been established. In addition to these duties they are expected "to investigate the subject of diseases among cattle or other animals." An organization was effected by the election of Dr. David King, of Newport, as chairman, and Dr. Charles H. Fisher, of Scituate, as secretary. The active duties of the board devolve upon the latter officer, who receives a salary of twelve hundred dollars a year, while the other members serve without pay. As yet the public has seen but little result of the labors of the board, but nevertheless they have not been idle, and as time passes the fruits of their efforts will appear in such tangible shape as will justify their claim to become a permanent institution of the State. In April the board issued a circular calling attention to the prevalence of glanders among horses, and establishing certain regulations in regard to the care and isolation of animals thus affected. They have also just issued the first of a series of Public Health Tracts entitled Practical Sanitary Hints. This circular explains the relations of filth and decomposing animal and vegetable matter to the causation of diarrhœa, dysentery, typhoid fever, etc., gives directions in regard to the use of disinfectants and the ventilation of houses, and cautions the public against the use of contaminated well-water and the neglect of cleanliness in cellars, closets, etc. There has been no unusual prevalence of such diseases to call for the issue of this tract, but the board has acted upon the principle enunciated in the closing sentence of the circular, that "an ounce of prevention is better and far cheaper than a pound of cure." Some unfavorable comment has been excited by the fact that all the appointments to the board are of gentlemen outside of Providence. This fact becomes still more striking when we reflect that this city contains nearly one half of the whole population of the State. But as all the members are men of well-known ability, whose influence and interests are not bounded by the limits of the towns in which they chance to reside, I think no one can reasonably question the wisdom of the appointments.

PROVIDENCE, R. I.

SHORT COMMUNICATIONS.

CUTICURA.

MR. EDITOR, — In a recent number of the JOURNAL appeared an article in which the writer states that it "has come to his knowledge that physicians have prescribed 'cuticura' to patients having diseases of the skin, and with very bad results," etc. Now as this statement is entirely contrary to my own experience, I deem it important to state briefly the result my individual observations. I have prescribed "cuticura" in a number of cases, — in all ten or twelve, — and have never yet seen any of the bad effects referred to by your correspondent; on the contrary, have usually had most satisfactory results from using the same. I direct my druggist to put it up in the form of a prescription, and not as a proprietary article. I have used it on my own person for very obstinate eczema, and with good advantage, never having experienced any of the irritant effects referred to in the above-named article. In fact, with "cuticura" externally and two tar capsules thrice daily a complete cure seems to have resulted. Very truly yours,

LYNN, *August* 30, 1878. J. A. MCARTHUR.

ELASTIC ADHESIVE PLASTER.

BY DR. WILBUR P. MORGAN, BALTIMORE, MD.

FOR some time I have been trying to find an elastic covering that, being attached to the skin, would yield to the movements of that membrane and the parts beneath it without causing an unbearable sensation of stiffness or an uncomfortable wrinkling.

As there was nothing in our market to suit me I procured some india rubber, and giving it a coat of plaster, such as is recommended in Griffiths's Formulary under the name of Boynton's adhesive plaster (lead plaster one pound, rosin six drachms), I found the material I wished. After using it as a simple covering for cases of psoriasis, intertrigo, etc., I extended its use to incised wounds, abscesses, etc., and found it invaluable.

Placing one end of a strip of the plaster upon one lip of the wound, and then stretching the rubber and fastening the other end to the opposite lip of the wound, I had perfect apposition of the severed parts, the elastic rubber acting continually to draw and keep the parts together. When I have been unable to get the sheets of rubber I have used the broad letter bands (sold by all stationers) by giving them a coat of the plaster.

I do not know if this kind of plaster has ever been placed before the profession. If it has I can do no harm in again calling the attention of surgeons to it. If it has not, I feel assured that any one who uses it once will never again be without it, as it is cleanly, certain and satisfactory in its action, and fulfills indications that no other plaster does or can.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. X.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, *September* 14, 1878.

MEMPHIS. — During the week ended six o'clock, September 12th, there were 687 deaths from yellow fever. It is impossible for the Memphis authorities to ascertain the number of cases.

BROWNSVILLE, TENN. — The first case of probable yellow fever occurred on the 29th of August, resulting in death September 2d, since which time there have been nine deaths from yellow fever. There were thirty cases under treatment last evening. At least two thirds of the population fled the city between the 1st and 4th inst.

HOLLY SPRINGS. — One hundred and sixteen new cases of yellow fever and 42 deaths occurred during the week ended yesterday evening, making in all 216 cases and 67 deaths. All of the resident physicians are sick.

CANTON, MISS. — One hundred and fifty new cases of yellow fever and 20 deaths for the week ended yesterday evening. First case August 1st. Total cases 340; total deaths 50.

PORT GIBSON, MISS. — Dr. Wharton, of Mississippi State Board of Health, reports about 500 cases of yellow fever and 94 deaths to yesterday noon, and "very few subjects left to take it."

WATER VALLEY, MISS. — One citizen taken with yellow fever September 1st and died on the 7th. No other cases to yesterday evening since the refugee cases reported in August.

OCEAN SPRINGS, MISS. — Sixteen cases of yellow fever and four deaths occurred during the week ended yesterday evening, making 34 cases and nine deaths in all since commencement, August 30th.

PASS CHRISTIAN, MISS. — From August 29th to September 9th there were 15 cases of yellow fever and one death.

BAY ST. LOUIS, MISS. — Six cases of yellow fever developed in Bay St. Louis during the last week. Two deaths. No new cases yesterday.

PASCAGOULA, MISS. — One of the cases, previously reported, since died. No new cases.

NEW ORLEANS. — During the week ended yesterday noon there were 1528 cases of yellow fever and 530 deaths, making in all 6137 cases and 1925 deaths. In the last twenty-four hours to Friday noon there were 228 cases and 58 deaths.

PLAQUEMINE, LA. — One hundred and seventy-five cases of yellow fever and 37 deaths had occurred up to September 8th.

MORGAN CITY, LA. — There have been 25 cases of yellow fever and eight deaths, of which three cases and two deaths occurred during past week.

PORT EADS, LA. — No cases and no deaths from yellow fever during last week. There were 21 cases and two deaths from August 16th to 31st, — period not previously reported, making in all 67 cases and eight deaths.

MOBILE. — One death from yellow fever occurred on the 9th inst. No other cases to last evening. City healthy.

ST. LOUIS. — During the week there were two cases, of local origin, said by some to be yellow fever, disputed by others. One died; the other was sent to quarantine hospital, where nine refugees died of yellow fever during the same period.

CAIRO. — The editor of the *Cairo Bulletin* died of yellow fever on the 12th inst. One employé of the *Bulletin* office died yesterday. No other cases. On the 4th inst. four members of a family residing two miles from Cairo upon the bank of the Mississippi were suddenly stricken with yellow fever. On the 10th the remaining two members of the family were attacked; one died. The children found an abandoned skiff in the river and removed it to the house for repair. Three or four days afterward all who were around the boat were stricken with fever in one day. The quarantine physician dissents from the diagnosis of the attending and consulting physicians.

HICKMAN, KY. — The telegraph operator reported dead. No other information obtained.

LOUISVILLE. — There were 19 new cases of yellow fever and seven deaths for the week ended yesterday evening, — all refugees.

CINCINNATI. — From September 4th to yesterday evening there were seven cases of yellow fever and four deaths, all of whom were recently from infected places south.

GALLIPOLIS, OHIO. — There have been 25 cases of yellow fever and nine deaths, resulting from communication with the steamboat John D. Porter and her barges while anchored near Gallipolis. This vessel and her infected barges ascended the Mississippi and Ohio rivers from New Orleans to Gallipolis with effect much like a firebrand among explosives. The local health authorities could only prevent her landing, and the law forbids this office interfering in such cases.

KEY WEST. — One case of yellow fever and one death during the past week.

KINGSTON, JAMAICA, September 3d. A few cases of yellow fever have occurred at Port Royal, six miles from Kingston; one proved fatal. The steamship Etna from Hayti arrived at Kingston on the 1st inst. with the purser sick of yellow fever contracted in Hayti.

CALCUTTA. — There were 11 deaths from cholera and 20 from small-pox during the week ended July 13th.

BOMBAY. — Twenty-two deaths from cholera and nine from small-pox: week ended July 23d.

HAVANA. — Fifty-one deaths from yellow fever and five from small-pox during the week ended September 7th.

During the week ended August 24th there 24 deaths from scarlet fever in Birmingham, England, and the same number in Liverpool and London. In Hamburg there were 31 deaths from typhus fever, 11 from enteric fever, and 20 from diphtheria in the same week.

In ALEXANDRIA, Egypt, the annual rate of mortality per 1000 of the population, based on the weekly mortality for the week ended August 8th, was 58.8.

No official reports could be obtained from Vicksburg, Grenada, Baton Rouge, Balton, etc.

Reports from other places indicate good health. JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Sept. 7, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	530	25.21	23.42	28.71
Philadelphia.	876,118	308	18.28	18.80	21.54
Brooklyn.	549,438	240	22.71	21.51	25.50
Chicago.	460,000	158	17.86	17.83	22.39
Boston.	375,476	156	21.60	20.10	24.34
Providence.	100,000	36	18.72	18.81	19.20
Lowell.	55,798	30	27.96	19.09	22.50
Worcester.	54,937	17	16.09	20.06	22.30
Cambridge.	53,547	15	14.56	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	15	21.96	20.42	19.67
Springfield.	33,981	12	18.37	16.02	19.77
Salem.	27,140	8	15.33	20.38	21.15

Dr. Washington L. Atlee, the distinguished ovariotomist, died on September 7th. He graduated from Jefferson Medical College in 1829.

Dr. J. R. Wilbur, of Chicopee, Mass., died on September 7th, at the age of sixty-four.

Censors' Meeting. — See advertisement.

American Gynæcological Society. — The third annual meeting will be held in the hall of the College of Physicians, Philadelphia, on September 25, 26, and 27, 1878. The following titles of papers to be read have been received: Third Annual Address by the Vice-President, William Goodell, M. D. Leucorrhœa considered in Relation to its Constitutional Causes and its Constitutional Effects, by Ex-President Fordyce Barker, M. D. On the Surgical Treatment of Dysmenorrhœa, by J. Marion Sims, M. D. Dermoid Tumors of the Ovaries, by W. H. Byford, M. D. The Early Delivery of the Placenta when Prævia, with a Case of Spontaneous Detachment of that Organ without Hæmorrhage, by I. E. Taylor, M. D. A Case of Anteversion and Anteflexion at the End of Gestation, with Remarks on the Treatment, by I. E. Taylor, M. D. Alternate Anterior and Posterior Version of the Uterus, by S. C. Busey, M. D. A Case of Foot and Head Presentation; Fracture of the Spine in Utero, by J. T. Johnson, M. D. The Problem of the Obstetric Forceps, by A. H. Smith, M. D. The Hand as a Curette in Post-Partum Hæmorrhage, by H. P. C. Wilson, M. D. A Case of Extra-Uterine Pregnancy, with Discharge of the Fœtal Bones through the Bladder, by James P. White, M. D. Improved Tents, by James P. White, M. D. On some Points connected with the Treatment of Sterility, by A. Reeves Jackson, M. D. Rectal Alimentation in the Nausea and Inanition of Pregnancy, by H. F. Campbell, M. D. Three Cases of Ruptured Uterus, by T. Parvin, M. D. Gastro-Elytrotomy, by H. J. Garrigues, M. D.

Books and Pamphlets Received. — A Clinical History of the Medical and Surgical Diseases of Women. By Robert Barnes, M. D. Lond. Philadelphia: H. C. Lea. 1878.

Elementary Quantitative Analysis. By H. Alexander Classen, Professor in the Royal Polytechnic School, Aix-la-Chapelle. Translated, with additions, by Edgar F. Smith, A. M., Ph. D., University of Pennsylvania. Philadelphia: H. C. Lea. 1878.

A Conspectus of the Different Forms of Phthisis, intended as an Aid to Differential Diagnosis. By Roswell Park, A. M., M. D. (Chicago Medical Journal.)

Involuntary Action of the Nervous System. Read before the American Dental Convention. By John J. Caldwell, M. D., Baltimore.

The Treatment of the Genito-Urinary Organs, the Use of Electricity, Damiana, etc. By John J. Caldwell, M. D.

The Numeration of Blood Corpuscles and the Effect of Iron and Phosphorus on the Blood. By W. R. Gowers, M. D. (London Practitioner.)

Annual Announcement of the Medical Institution of Yale College, 1878–79.

Transactions of the Medical Association of the State of Alabama. 1878.

Medical and Surgical Electricity. Beard and Rockwell. New York: William Wood & Co. 1878.

Double Optic Neuritis (Choked Disc) and Sloughing of the Right Cornea, etc. By Swan M. Burnett, M. D. (Reprint.)

Choroiditis Exsudativa. By Swan M. Burnett, M. D. New York: William Wood & Co. 1878.

Modern Stimulations, etc. By T. J. W. Pray, M. D. Concord. 1878.

On Fœticide. By Henry Gibbons, Sr., M. D.

THE BOSTON
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VOL. XCIX. — THURSDAY, SEPTEMBER 26, 1878. — NO. 13.

ABSENCE OF RESONANCE IN THE FIFTH RIGHT INTERCOSTAL SPACE DIAGNOSTIC OF PERICARDIAL EFFUSION.[1]

BY T. M. ROTCH, M. D., BOSTON.

My attention was first directed to the investigation of the commonly received views concerning the area of dullness in pericardial effusion by the numerous cases of effusion into the pericardium found at post-mortem examinations, where such effusion had not been diagnosticated during life, although the patients had been in the hands of most competent clinical diagnosticians.

On inquiry, I learned from very careful investigators that the rules laid down by authorities on this subject were often totally inadequate for purposes of diagnosis, and the opinion of these physicians is well represented when expressed in the words of Professor Calvin Ellis, who, when questioned regarding the subject, said that "he thought the rules laid down by authors for determining pericardial effusion by the pyramidal form of the area of flatness misleading and insufficient." Dr. Henry I. Bowditch also concurs in this opinion.

Influenced by the experience of these eminent physicians, I began, about nine months ago, a series of experiments, to determine, if possible, the actual shape which the effusion, when present, *does* take, and the results of these experiments will be given in this paper.

What, then, are the views held upon this subject by the numerous authorities who have written about it since Galen, Forestus, and Rondelet first spoke of pericardial effusion? Albertini and in like manner Morgagni mention the difficulties presented in the diagnosis, while Auenbrügger first gave the symptom of præcordial percussion dullness, Laennec at the same time doubting the possibility of diagnosticating pericardial effusion with any certainty; and this author did not recognize the disease by percussion, Louis being the first French author who speaks of it, while præcordial dullness, as a symptom, is first elaborately described by Skoda and Kolletschka.

We will not here consider the various complications of the disease which may arise and render its diagnosis of greater difficulty; these I expect to speak of in a future paper, considering at present merely the diagnosis by percussion of a simple serous or sero-fibrinous effusion into the pericardium, with the heart healthy or diseased as a complication, but the lungs and pleura normal, no adhesions, and in fact nothing else abnormal in the thorax or abdomen.

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[1] Read at the Annual Meeting of the Massachusetts Medical Society, June 11, 1878.

Reviewing the ideas of representative authors on this subject, first, Skoda writes: "It is necessary to have a large amount of fluid to cause an increase of dullness. The dullness depends on the amount of retraction of the lung.

"As the heart is heavier, that is, has a greater specific gravity than any exuded fluid, it lies as deeply as possible, the fluid standing as high as possible; this is when the fluid is in small amount, and is always the case excepting when the pericardium is relaxed, or when adhesions are present in the upper part of the pericardium. Thus at first, when the amount of fluid is comparatively small, the increase of the dullness is vertical, that is, in the long diameter of the heart, while increase in breadth only takes place after the amount of fluid has increased still further; and when it reaches one thousand cubic centimetres, as a rule, the percussion dullness extends from the second left costal cartilage to the lower edge of the thorax, and in breadth from the right edge of the middle piece of the sternum to the left axillary line."

Stoffela, reporting Oppolzer's lectures, says: "The symptoms of pericardial effusion are in some cases very evident, while in others they are so unpronounced as to cause the greatest difficulty in the diagnosis. Percussion shows that the exudation begins at the base of the heart, where the great vessels join the heart; and hence as the pericardium at this point is most relaxed, so the fluid collects here first and is first found here by percussion, thus increasing the long diameter of the heart, reaching as high as the third or second rib, in the left parasternal line. Then, on the fluid increasing, we find the dullness increased in breadth, that is, extending from the right edge of the sternum across to the left mammary line; this area of dullness has the form of an inverted triangle, its base being upwards and its squared apex downwards. Then, on further increase of the effusion, the dullness can extend up to the first rib, and the figure becomes less and less like a triangle; but, as it increases, the fluid fills up the lower part of the pericardium, and we now have a triangle, with the base downwards and its truncated apex above."

Professor Bauer says "that the effusion first collects at the base of the heart, pushing that organ downwards before it; that the dullness has in a majority of cases a certain form, namely, that of a truncated cone with the base downwards;" and he disagrees with Duchek, who holds "that the form of the area of dullness is determined by the lungs retracting," while Bauer contends "that it is the shape of the pericardium itself which governs this form." Bauer also says "that in large exudations the triangle reaches to the second or third rib on the left of the sternum; that at times the whole sternum may be dull; that the left side of the triangle may extend beyond the left nipple to the axillary line, and that this may also occur on the right side. Usually, however, the dullness extends very little to the right of the sternum, and the effusion must have reached one hundred cubic centimetres in quantity before a diagnosis can be made."

Paul Niemeyer states that the exudation is first perceptible by percussion when it has reached two hundred and fifty cubic centimetres, and both he and Kunze agree with Oppolzer as to the form of the area of percussion dullness, while Guttmann, Felix Niemeyer, Gerhardt, Jaccoud, and Gee appear to agree with the views of Skoda on this point.

Sibson, writing in Reynolds's System of Medicine, says: "The fluid collects in the lower part of the pericardium, pushing the heart up, so that the apex is above and beyond the nipple, and when the effusion is large it assumes a pyramidal or pear shape." He also considers, as does Gee, that it is the vertical increase of dullness which is characteristic of pericardial effusion, as affording the means of diagnosis from an enlarged heart.

Da Costa states that the shape is "pyramidal," with the base downwards, while Flint speaks of the area of dullness as "pyriform," with the apex at the sternal notch, and the base at the sixth or seventh cartilage, the left boundary extending as far as the left nipple, and the right over the right edge of the sternum.

The rules for making the diagnosis of pericardial effusion, then, being exactly laid down by these authors, have they, or have they not, proved adequate, practically, for such diagnosis? The following instances will, it seems to me, tend to show that they have not.

First, I would cite the case reported to me by Professor Ellis, where the diagnosis of pericardial effusion was made by one of the best trained of his advanced students, strictly according to rule, and so logically drawn up that Professor Ellis could not gainsay the diagnosis so long as he admitted the triangular form of flatness to be characteristic of pericardial effusion; and yet there was no doubt, judging by other prominent symptoms, that the area of increased præcordial flatness was caused by an enlarged heart.

Next, by permission of Dr. T. B. Curtis, I will read an extract from his letter to me on this subject, giving his reasons for doubting the correctness of the established rules for diagnosticating effusion. Dr. Curtis says: "When I was serving as interne in 1870 at the Hôpital des Enfants malades, under Dr. Henri Roger, there was in one of his beds a little girl about five years old who presented all the signs of an abundant chronic effusion into the pericardial cavity. We had her several weeks under observation, and she was an object of particular interest to Dr. Roger, for the reason that he had already previously practiced puncture of the pericardium in a well-known case (published in the *Union médicale*, December, 1868), and was extremely desirous of an opportunity to repeat the procedure.

"In this case indications of the operation seemed to present themselves again, at times in the most urgent manner. Repeatedly I saw Dr. Roger mark out the area of dullness in his usual minutely careful way, and select the exact spot where he would insert the trocar. Before deciding to operate he consulted Dr. Labric, who was also attached to the Children's Hospital, and for whose judgment he had the highest regard. The latter, however, persistently advised against the proposed puncture, and in deference to his opinion the operation was postponed, until finally the child succumbed, without the operation having been performed. At the autopsy we found no effusion, but an enormously dilated heart.

"So closely, then, in this case were the signs of a copious pericardial effusion simulated by dilatation of the heart as to deceive one so skillful as Dr. Roger, fortified by an experience of nineteen years as physician to the Children's Hospital, a virtuoso in the art of physical examination, the author together with Dr. Barth of a well-known treatise on auscultation and percussion, and also author of a treatise on the semeiology of childhood."

Allowing that the heart has been tapped by mistake, by Baizeau and Roger, and blood withdrawn from the right ventricle without apparent harm to the patient, yet this accident is not by any means devoid of danger; and to show the great risk incurred in tapping the heart to the left of the sternum, with only our present knowledge of the signs of effusion, I will present one more instance of unsuccessful diagnosis. In the *Gazette des Hôpitaux*, No. 39, there is reported the case of a soldier in the military hospital of Groscaillon, who exhibited symptoms of pericardial effusion and disease of the aortic valves following from attacks of acute articular rheumatism. The dyspnœa led the surgeons to introduce a No. 1 Potain needle in the third left intercostal space to the depth of four centimetres. No fluid appeared, and on leaving the needle free it oscillated synchronously with the beat of the heart, which had been punctured; the patient uttered a sharp cry, took one deep inspiration, and was dead. The pericardium was found to be much thickened and adherent to the heart at various points. The needle had passed over one of these points and wounded the central organ.

The experiments which I am about to present to you were performed in the physiological laboratory of Professor H. P. Bowditch, and were all submitted to his inspection. I am greatly indebted for very valuable suggestions from Professor Bowditch, from his assistant Dr. Garland, and from Dr. James J. Putnam.

My first experiments were made upon dogs, but were failures, as to any notable results, for the following reasons: (1) That the dog's pericardium has not the same shape as the human pericardium; (2) that it hangs more vertically in the thorax; and (3) that owing to the pleura meeting directly in the median line of the sternum, and to the existence of an extra pleural cavity under the heart (first spoken of by Dr. Garland), it is impossible to enter the pericardium without opening the pleural cavity and causing collapse of the lung, an accident which materially alters the shape which the fluid may assume.

It was therefore thought best to use the cadaver only; for here we can introduce fluid into the pericardium without destroying the relations between the lungs and the heart which exist during life; it was also found by dissection that the anatomy of the infant's thoracic organs corresponds so very nearly to that of the adult's that the introduction of fluid into the infant's pericardium was followed by the same relative results as that into the adult's.

My results are based upon the injections of sixteen infants and four adults. The fluid used was melted cocoa butter, which has a specific gravity of 0.90. It will be well to state here that I use the term flatness to express entire absence of resonance, or what is understood by some German authors as "absolute dullness." By relative dullness I mean diminished resonance. Thus when I speak of the *flatness* of the heart or effusion, I mean that no lung tissue whatever is between the pleximeter and such heart or effusion; while where there is more or less lung tissue, I use the term *relative dullness*. Now as opinions are much more apt to differ as to relative dullness than as to flatness, it is the *area of flatness* which I shall mark out as characteristic of effusion; and I would also add that in order to mark out the boundary of the area of flatness correctly we must percuss very lightly from a point of established flatness, such as the fifth left costal cartilage, to the right and left and upwards, until we come to the encircling resonant border of the lung.

It is needless to mention the various methods of entering the pericardium which were employed before satisfactory results could be obtained; it is sufficient to state that although by sawing the sternum in the median line the pericardium can be entered without perforating the pleural cavity, yet that by this method the results of percussion are rendered void by air not only entering the anterior mediastinum, but also getting into the pericardium itself.

(*To be concluded.*)

DETERMINATION OF SEX BY THE DATE OF CONCEPTION.

BY J. B. SWIFT, M. D. HARV.

WHILE studying the reproductive organs in the microscopical laboratory of Dr. Carl Heitzmann, of New York, last winter, Dr. Heitzmann advanced the following theory in regard to the determination of the sexes. The ovum represents the female element, the spermatozoa the male. We know that it requires only a few spermatozoa, perhaps a single spermatozoön, to impregnate an ovum. If an ovum becomes impregnated by a few spermatozoa the female element will be in excess and the result will be a female. If, on the other hand, a good many spermatozoa impregnate the ovum the male element will preponderate, and a male will result. Now, if an ovum is high up, that is in the ovary or at the fimbriated extremity of the Fallopian tube, probably only a few spermatozoa will come in contact with it. But if the ovum is low down then many spermatozoa come in contact with it.

If menstruation and ovulation are dependent the one on the other, as many authorities affirm, then the situation of the ovum may be determined by the menstrual period. During the interval between the periods the ovum is in the ovary. Just before the flow begins the ovum may be on the surface of the ovary or in the fimbriated extremity of the Fallopian tube. As menstruation goes on the ovum descends, and the flow may entirely cease before the ovum is discharged. Then it is low down in the Fallopian tube or even in the uterus itself.

Now if coition takes place during the interval between two periods, or just before menstruation begins, the ovum being high up, only a few spermatozoa pass up the Fallopian tube and reach it; but if coition is just after menstruation, then the ovum is within the reach of many spermatozoa.

Stock breeders understand this. If they want a female they put the two sexes together at the beginning of the rutting period, but if a male is desired they wait until the female has been in heat some time.

During my term of service in the Boston Lying-In Hospital I had several opportunities of testing this rule, and have collected twenty these which bear it out.

I excluded those cases where there seemed to be any doubt at all in regard to the statements, and all married women, except three where the exact dates were given.

In twelve cases the data were obtained before delivery, and in all these the sex was predicted correctly.

In looking over the records of the hospital I found five cases which were noted as single connections, and the dates given. In all these the result conforms to the theory. In three instances the data were not obtained until after delivery. Two of the cases were in the hospital when I came on duty, and the other was kindly furnished by Dr. W. L. Richardson from his private practice. The cases are as follows: —

I. A. S., twenty, single, primipara. Catamenia last seen June 18, 1877. Connection June 20, 1877. Delivered of a male child March 19, 1878. Data obtained after delivery.

II. A. McK., twenty, single, primipara. Catamenia seen the end of May, 1877. Connection a few days after the flow had ceased. Delivered of a male child February 28, 1878. Data obtained after delivery.

III. Dr. Richardson's case. A married woman, who desired not to have children, was told not to have connection until a week after the flow had ceased, nor within a week of the next period. She had connection the ninth day after she stopped menstruating, and became pregnant. She was delivered of a female child. Data obtained after delivery.

IV. S. S., twenty-six, single, primipara. Catamenia April 1, 1872. Single connection April 5, 1872. Delivered of a male child. Taken from the hospital records.

V. M. G., eighteen, single, primipara. Catamenia March 29, 1873. Single connection April 13, 1873. Delivered of a female child February 10, 1874. Taken from the hospital records.

VI. M. R., eighteen, single, primipara. Catamenia last seen July 16, 1873. Single connection two weeks before (July 4th). Delivered of a female child May 9, 1874. Taken from the hospital records.

VII. W. C., twenty-two, single, primipara. Catamenia January 11, 1874. Single connection just after. Delivered of a male child October 14, 1874. Taken from the hospital records.

VIII. S. Y., eighteen, single, primipara. Catamenia June 30, 1874. Single connection July 4, 1874. Delivered of a male child April 21, 1875. Taken from the hospital records.

IX. M. W., nineteen, single, primipara. Catamenia last seen during last week of May and first week of June, 1877. Had connection on two successive nights two weeks after the flow had ceased. Was delivered of a female child March 9, 1878. Sex was predicted.

X. M. H., twenty-three, single, primipara. Catamenia last seen June 24, 1877. June 29, 1877, had a single connection. Was delivered of a male child March 23, 1878. Sex was predicted.

XI. E. D., twenty-one, single, primipara. Catamenia last seen June 20, 1877. Single connection July 4, 1877. Delivered of a female child March 30, 1878. Sex was predicted.

XII. M. H., eighteen, single, primipara. Catamenia last seen June 18, 1877. Single connection a few days after flow ceased. Delivered of a male child March 23, 1878. Sex was predicted.

XIII. A. L., twenty-one, single, primipara. Catamenia last of July, 1877. Connection the day the flow stopped, and twice afterwards during the month. Was delivered of a male child April 1, 1878. Sex was predicted. The prediction was made in this case because symptoms of pregnancy appeared immediately after the first connection. This was a small child, probably born at the eighth month.

XIV. K. W., twenty-two, single, primipara. Catamenia stopped July 4, 1877. Single connection July 15, 1877. Delivered of a female child April 15, 1878. Sex was predicted.

XV. S. M., nineteen, single, primipara. Catamenia last seen during the first week of June, 1877. About the time of the next period, namely, July 4, 1877, had connection and "no show." Delivered of a female child April 3, 1878. Sex was predicted. Conception took place just before menstruation.

XVI. From Dr. Richardson's private practice. A married woman, who having had one child desired no more. She was very careful to have connection only just half way between two menstrual periods. She was delivered of a female child in May, 1878. Sex was predicted.

XVII. F. W., nineteen, single, primipara. Catamenia last seen August 1, 1877. Connection a few days after. Delivered of a male child May 3, 1878. Sex was predicted.

XVIII. H. D., twenty-one, single, primipara. Catamenia appeared July 25, 1877, and lasted one week. August 5, 1877, that is, four days after they ceased, had a single connection. Was delivered of a male child May 4, 1878. Sex was predicted.

XIX. C. L., thirty-two, married, third child. Catamenia last seen August 15, 1877. Her husband, "a traveler for a firm," came home August 26, 1877, and stayed until September 12, 1877. She has not seen him since. Was delivered of a female child May 18, 1878. Sex was predicted.

XX. A. B., twenty-four, single, second child. When fourteen years old she was seduced and had a child, since which time she has been insane. On the 17th of September, 1877, she came to Boston, from the Worcester Insane Asylum, with her mother to see the procession. She was lost in the crowd, and the next morning found in a house of ill-fame. She menstruated last from August 26 to September 1, 1877. Was delivered of a female child June 8, 1878. Sex was predicted.

I am aware that this theory conflicts with most, if not all, of the accepted theories on the subject of conception, and that the cases here presented are too few in number to establish any exact rule, but it certainly seems to me that the results obtained are extremely interesting and would warrant a further investigation of the subject.

RECENT PROGRESS IN THERAPEUTICS.[1]

BY ROBERT AMORY, M. D.

Iron, Physiological Action, and Indications for the Use of Various Forms of; Contra-Indications, etc. — M. Cabrol[2] reviews his own experience with the use of iron, and advises under what circumstances the various preparations may be employed. Basing his physiological views on the theory that iron enters into the composition of the red blood corpuscles in the proportion of seven per cent., and that these latter are the most important organic constituents of the blood, he pleads for the necessity of the inorganic element (iron) as a nutritive agent. Whilst in health the amount of iron essential to hæmatosis is supplied by the ordinary alimentary substances; in feeble and convalescent patients who are also anæmic, ordinary food does not furnish the blood with the necessary amount of iron. He also mentions, what is no doubt true, that in modern medicine the old fashion of blood-letting has been replaced by tonics and stimulants.

M. Cabrol divides the preparations of iron into three classes: First, those which are pure metallic or in a state of oxidation. Second, those which combine with feeble acids to form salts. Third, those combined with strong acids. The third class are mostly used externally. Among those contained in the first class *le fer metallique porphyrizé*, in M. Cabrol's estimation, has the first place. He says it is well known that iron oxidizes very rapidly when exposed to the air, and owing to this many of the simple forms of pure iron cannot be readily used as medicines. The porphyrized metallic iron by the process of Coquet is, however, to all intents and purposes inalterable. This process is based on the preservative influence of cane sugar, and is very simply prepared by mixing the pure metal with cane sugar, and then drying. This form may be prescribed either in pill or powder, and in cases of fatigued stomach he administers with the iron a few teaspoonfuls of milk or alkaline pastilles. He writes enthusiastically of the beneficial and unexpected good effects of this iron in several cases of gouty and rheumatic affections, of nervous lesions, of advanced cachexia, etc., etc., and gives detailed reports of its use in cases of severe and obstinate chronic rheumatism, of general anasarca with albuminuria accompanied with marked systolic cardiac souffle, of lupus, and of pernicious anæmia with extreme prostration. All these were successfully treated with this iron preparation. Finally, he states that in passive venous engorgement and visceral plethora he prefers the pure metallic form of iron (neither salts nor oxides), whilst in nervous and debilitated patients the less irritating iron salts or the oxides.

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[1] Concluded from page 372.

[2] L'Union médicale, February 26, 1878, page 292.

Dialyzed Iron Solution. — This substance has been extensively used as a medicinal agent, and yet there are many practitioners who are quite skeptical in regard to its utility as an iron tonic. It will probably take more time than has elapsed since its introduction to establish its value, and at present this report will merely give the method of its preparation and its strength, for which the reporter is indebted to Messrs. Wyeth & Co. for further information than that contained in his preceding report.[1] This solution contains ferric oxide, of which the proportion to the solvent varies according to the method of preparation. One sample of Wyeth's, taken at random in the drug market, furnished 24.49 grains to the ounce, and on further evaporation a dry residue yielding 2.81 grains of water, with very little hydrochloric acid, and 21.68 grains of ferric oxide. A second sample, of the same manufacture, furnished 24.30 grains of dry residue. A third sample, from another druggist, contained 18.63 grains, which on further evaporation yielded 3.07 grains of water, considerable hydrochloric acid, and 15.56 grains of ferric oxide. A fourth sample, of a different manufacture, yielded 17.88 grains of dry residue, but showed marks of imperfect dialysis, was quite acid to the taste, besides being much weaker in ferric oxide. A fifth sample, from still another manufacture, gave considerable hydrochloric acid, sal ammoniac, and only 6.85 grains of ferric oxide to the ounce of solvent. Further analysis in Wyeth's solution of dialyzed iron proved that the proportion therein of ferric chloride to ferric oxide was 1 to 27.8. These analyses were conducted by Professor Genth, of the University of Pennsylvania. From this a fair conclusion may be drawn that the results of administration of the ferric chloride and ferric oxide contained in the commercial solutions of dialyzed iron would be influenced by the size of the dose and the purity of the preparation. Being a weak preparation of iron it should be prescribed in doses sufficiently large to produce the decided effect of iron. The estimation by specific gravity might give some idea of the amount of solid iron contained in the solution. Wyeth's method of preparation gives a specific gravity of 1.400. He uses a high temperature to facilitate dialysis, which may take four or twenty days. He also uses water, either distilled or drawn from an artesian well, and parchment paper. The final results of dialysis are determined first by taste, and then by assay by the following test: "Precipitating with a solution of ammonia previously heated; washing and igniting to get the amount of peroxide of iron; washing to expel excessive ammonia, and then adding solution of nitrate of silver; washing, igniting, and heating to obtain amount of chlorine."

Dr. Fothergill[2] advises against the use of iron when rapidity of pulse rate is combined with an elevated temperature, and gives as indications for its use normal temperature, cool skin, pale face, and clean tongue in debility arising from anæmia. In the former case vegetable tonics, as quinine or strychnine, together with mineral acids, should be given instead, and then the iron, in small doses at first, after eating. In phthisis especially it should be withheld when the above contra-indications are present. He prefers the lighter preparations, the ammonio-citrate, tartrate, or the citrate of iron and quinine. When the iron treatment is found too "heating" he adds a small quantity of sulphate of magnesia. So, again, in certain acid conditions of the blood in atonic gout or in chronic renal disease, bicarbonate of potassa, potassio-tartrate of soda, with a little nux vomica in infusion of buchu combined with a liberal draught of water, are preferable. With old persons iron rarely agrees, but for the young it is especially beneficial. In so-called biliousness and a loaded portal circulation iron will disagree unless this overloading be relieved by salines and strychnia with nitro-muriatic acid. At the catamenial periods, when menorrhagia is associated with pallor and debility, an attempt should be made to lessen the loss rather than to stimulate blood formation. During the interval a little sulphate of magnesia with dilute sulphuric acid in some vegetable astringent infusion should be given, along with a restricted dietary; and in those cases where it is necessary to encourage blood formation during the interval the chalybeate treatment should be suspended before the menstrual molimen, and in its stead the mixture above mentioned should be given.

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[1] Vide JOURNAL, September 27, 1877, page 362.

[2] Practitioner for September, 1877.

In opposition to the opinion of Drs. Brown-Séquard, Hughlings Jackson, and Fothergill, Dr. Gowers [1] summarizes the action of iron on epileptics: —

"(1.) In a certain proportion of cases of epilepsy, probably a minority of the whole group, iron does increase the frequency and severity of the fits.

"(2.) In a large number of cases iron may be given without any recognizable influence on the attacks.

"(3.) In many of the cases in which its effect is injurious the increase in fits does not occur until after the iron has been taken for some weeks, and in some of these cases the first effect of the drug is to cause a diminution in the frequency and severity of the attacks.

"(4.) In some cases this beneficial effect, instead of being transient, is permanent, and great benefit results from the continued administration of iron; so that by its use alone some cases may be cured, as far as the affection can be said ever to be cured by drugs."

Dr. Gowers presents cases which seem to prove that iron produces a beneficial action in certain cases, and not in others. He suggests the conclusion that iron does not have a hæmatinic effect in epilepsy, but exerts its influence on the nervous system much in the same way as zinc, silver, and some other metals. The only occasions for a chalybeate treatment in epilepsy he thinks are in those forms which seem to be midway between hysteria and epilepsy, though it is also useful in certain cases of a more purely epileptic type.

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[1] Idem, October, 1877.

M. Hayem[1] has found from a large number of examinations that a cubic millimetre of blood drawn from the finger of a healthy person contains five million five hundred thousand red corpuscles; in that from persons poisoned by lead, and who are anæmic, the absolute number is about the same, — five million three hundred and fifty-two thousand, for instance, — though their size is altered, and they contain only half the normal amount of hæmoglobin. Under appropriate iron treatment, though the number of red corpuscles remained unchanged, sometimes even diminishing, their size and color became normal, though it was necessary to continue the treatment for a considerable period of time.

Coca or Cuca.[2] — In a leading article appears a review of the practical applications of this drug in fatigue proceeding either from physical or mental over-exertion. The writer bases his deduction on Sir Robert Christison's experiment, on similar experiments by Von Tschudi and others, and on observations in South America by Mantegazza; he does not attach much importance to earlier and somewhat exaggerated accounts of Europeans who have visited South America, and who have picked up their information from the natives, without making any original investigation. These deductions may be concisely stated: (1.) Coca is a stimulant without increasing the pulse rate or body heat; on the contrary, the pulse rate usually falls, even after muscular fatigue, — in Sir Robert Christison's experience from 90 to 72 beats after two hours. (2.) Coca suspends hunger and thirst. (3.) Coca in moderate quantities is not followed by injurious or unpleasant after-effects. (4.) The best effects are obtained by chewing the dried leaves (if properly cured) mixed with lime, though there is no reason to suspect that a carefully prepared infusion or vinous preparation does not contain the active principle, which our writer supposes to reside in a peculiar form of tannin, — perhaps also in an aromatic and volatile substance. (5.) In various forms of dyspepsia, colic, diarrhœa, and general debility it has long been a favorite among the Indians, and Mantegazza reports his own experience of its value in most of these affections. Drs. Colin, Fauvel, Gazeau, Rabuteau, and Cintrat bear witness to the value of this medicinal agent, especially in the form of *vin de coca Mariani*, in tonsillitis, albuminuria, and diabetes. Dr. Fauvel especially speaks of its beneficial effect in a peculiar form of rebellious granular pharyngitis, which resisted all other kinds of treatment. He also says, "Le coca est le tenseur par excellence des cordes vocales."

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[1] Practitioner, July, 1877, and Comptes rendus, Tome lxxxiii., page 985.

[2] Medical Examiner, December 13, 1877.

Concerning the Effects of Arrest of Circulation and Action of Potash Salts on the Animal Body. — Drs. Ringer and Murell have made some interesting experiments[1] which bear very closely upon our knowledge of the therapeutical action of sedatives. These experiments seem to show that arrest of circulation affects sensation, reflex action, and voluntary motion very rapidly, and in the order above named; moreover, that this effect is more rapidly produced in the month of September than in June. Yet this may be explained by the fact that frogs were used in these experiments, and that their vital functions are more depressed in the month of September than in June. However this may be, the general results obtained show most conclusively that arrest of circulation, whether it be accomplished by ligature or bleeding of vessels, or by abolition of the central propelling organ, the heart, does most seriously interfere with the animal functions. Our authors explain the paralysis by the hypothesis that the tissues are deprived of oxygen, and that the materials of destructive metamorphosis accumulate. Oertmann's authority is cited to prove that the "salt" or "bloodless frog" maintains its vital functions by means of the oxygen conveyed by the salt to the tissues. The action of chloride of potassium and of other potash salts may be explained, according to Dr. Ringer's opinion, as due to stoppage of the heart's action by direct poisoning of muscular tissue, and by poisoning the nervous centres and the nervous system. This he confirms by experiments which prove that paralysis ensues more rapidly after poisoning with the potash salt than after the arrest of the circulation. He moreover thinks it probable that chloride of potassium "acts on the nitrogenous tissues, altering their chemical nature, and so destroying or arresting their function." He summarizes the action of this drug as follows: "(1.) It paralyzes all nitrogenous tissues. (2.) It acts by an equal affinity for all protoplasm, and it destroys the tissues in the order of their vital endowments. (3.) It arrests the heart, owing to its common action on all protoplasm, not from a special action on that organ. (4.) Arrest of the circulation itself, a paralyzing influence, must in some degree assist the direct action of the potash on the tissues. (5.) By arresting the circulation, potash, probably at an early stage, depresses the reflex function of the cord, in the summer months, indirectly through arrest of the circulation in the brain."

Dr. Ringer explains the slow action of potash by the hypothesis that being a powerful poison, both of muscle and nerve tissue, when absorbed it paralyzes the heart, and thus the passage through the circulation is impeded; then its slow diffusion through the tissues very tardily poisons them.

Doubtless the application of this theory of the action of drugs upon the circulating forces must inevitably interfere with the explanation of the specific action of sedative agents, from the very fact that mechanical obstruction of the circulation of blood produces in a great measure the effects which are similar to many of the so-called sedative agents. For instance, the primary action of atropine upon the capillary circulation contracts the lumen of the capillaries, and the primary action of aconite enlarges the lumen of the capillaries. The action of digitalis increases the tone of the circulation of blood. Something might be also said of the action of opium on the vaso-motor system. These factors may have much to do with the antagonistic action of many of our remedies. So also may we call attention to the effects of diseases upon the mechanical forces of the circulatory functions. In this way many of the therapeutical effects of drugs may modify pathological conditions, and thus our means of combating disease may be greatly strengthened.

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[1] Journal of Physiology, March 12, 1878, page 72.

A knowledge of the action of ferruginous agents upon these pathological changes may assist the practitioner in determining the indications for therapeutical measures.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

April 8, 1878. *Chronic Ulcer of the Duodenum.* — The following account of the case of the late Dr. H. C. Bickford, of Woburn, and formerly of Charlestown, was furnished by Dr. R. A. Blood, the attending physician: —

"Dr. Bickford had vomiting of blood for the first time some twenty years before his death. Previously to this he had had good health. The attacks of hæmorrhage continued through life at intervals of two and three years, there being never more than three years between them. Generally very large quantities of blood were lost, causing great prostration. Up to the last two years of his life the attacks came on during warm weather, but the last two occurred in winter.

"He always attributed an attack of bleeding to something eaten, some indigestible food, but I had noticed that the bleeding would come on after a hard day's work, and on several occasions after a difficult case of instrumental labor. After one of these bleeding spells he would become pulseless; in fact, he would be in almost a state of collapse. I saw him in one of these severe attacks when he came near dying, there being no pulse at the wrist for twelve hours. The distress from loss of such large quantities of blood was frightful; he expressed it as being indescribable. At this particular time he got relief from the use of large doses of opium in the form of McMunn's elixir, drachm doses being given by injection into the bowel.

"Vomiting was not always present, never being a prominent symptom until during his last sickness. The blood was passed mostly from the rectum, the stools looking not unlike tar. Pain was almost always present, more frequently in the stomach than elsewhere, sometimes running through to the back. It was more severe after than before hæmorrhage; in fact, pain was the chief symptom, coming on more severely about three hours after food was taken. This led him to think the ulcer was below the stomach, probably in the duodenum, where it proved to be situated.

"Bread and milk constituted his principal diet for some years, and this while he was doing a very large practice; but for years before death all kinds of food were taken, and generally well digested, he being much better nourished than when milk was the exclusive diet. At first almost every medicine given in such cases was tried, but with very little benefit, opium being an exception. The mode of treatment adopted during the last years of his life proved the best, giving more relief and recovery taking taking place more quickly than by any other. It consisted in sulphate of morphia to relieve pain, given hypodermically in doses of one eighth to one quarter of a grain, every four, six, or eight hours, and beef tea and gruel injections given every three or four hours, and constituting all the nourishment taken. Sometimes, when hæmorrhage was present, fluid extract of ergot in twenty to thirty drop doses was added to the beef tea. Also at times the tincture of the chloride of iron was given in the same way, but with how much benefit I cannot say. At times while he was under this treatment, taking no food by the mouth, a teaspoonful of milk would be given, and this being well borne, the quantity would be increased, and in this careful way he would get to eating again. At one time when he had been sick for six weeks, taking no food by the mouth, I suggested sweet buttermilk in small quantities. There was not the slightest distress following its use, and he continued it, gaining very rapidly, and this time making a quick recovery.

"Dr. Bickford's last sickness was a very distressing one. The vomiting was most persistent, large quantities of blood were lost, and the pain was very acute. Morphia had to be given in large and frequent doses. Hiccough was present four days and nights. This was relieved, after almost everything else had been tried, by chloral hydrate given by injection in doses of fifteen grains. The distress at this time was very great, owing apparently to the loss of blood, and morphia did not seem to control it. The immediate cause of death was hæmorrhage. He became pulseless more than forty-eight hours before death, but still seemed conscious of everything around him most of the time.

"Dr. Bickford was always very careful about his mode of eating and drinking, never using anything that he thought might not agree with him, and this extreme cautiousness probably prolonged his life to an unusual extent."

Dr. Fitz showed the specimen, and said that the ulcer, about an inch in diameter, extended through the posterior wall of the duodenum, its base being formed by the smoothly eroded head of the pancreas. A considerable depression in the latter was observed, filled with a moderately softened and superficially decolorized clot. When this was removed several fibrous granules projected from the floor of the ulcer, apparently branches of the pancreatic artery, a large branch of which ran beneath the ulcer without opening upon it. No large arterial branches were found in the eroded wall of the duodenum. There were dense and firm adhesions between the intestine and the pancreas.

The small intestine contained liquid blood intimately mixed with its contents. The stomach presented merely moderate thickening and pigmentation from chronic catarrhal gastritis, there being no cicatrices indicative of previous ulceration. The case was interesting from the long duration of the disease, as evident from the clinical history of the case and the absence of anatomical signs of exacerbations or remissions.

Ovariotomy. — Dr. J. Homans reported two cases of successful ovariotomy, which will be published in detail.

Dr. Putnam asked if the cases where the tumor was adherent to the peritonæum and neighboring organs did better after operation than others in which it was not. He had seen many reports of cases which had led him to believe that this might be a fact.

Dr. Homans answered that when the patient was run down by the disease the case was apt to do better after operation. Of the two cases he had reported the first was a patient who was well and able to be about; the second was sick in bed. In Mr. Keith's last series of fifty cases only four deaths had occurred.

Dr. Bigelow considered that a mass of catgut wound round the ligature and pedicle and left in the bottom of the pelvis would help give good results by furnishing a certain amount of antiseptic material there till the normal condition of the pedicle returned.

Dr. Homans said that Schroeder uses no catgut. The reason he uses catgut himself and drops the pedicle back is that in his last clamp case death resulted from pyæmia consequent on sloughing of the pedicle beyond the clamp towards the pelvis.

Case of Supposed Congestion and subsequent Transient Inflammation of a Segment of the Spinal Cord. — On the 2d of December Dr. Abbot was called to a widow lady eighty-six years of age, who up to that time had had almost uninterrupted good health. She was a person of very active habits, walking considerable distances without fatigue, and her mental powers had retained the acuteness and vigor of youth. The only exception to her uniform health had been occasional attacks of severe nocturnal cramps in her lower extremities, to which she had been subject for some years. These awoke her from sleep, and compelled her to spring from her bed for the relief which possible extension afforded. Trusting to her powers of digestion she had eaten a six o'clock dinner the evening before of roast turkey and mince pie, the latter having been taken also on the two evenings previous. She was aroused at an early hour on the 2d by a sense of oppression at the epigastrium, which was somewhat relieved by a carminative. Falling asleep, she was awaked about an hour after by what she considered "one of her cramps" in both lower extremities, and sprang out of bed, hoping for the usual relief. The pain was very severe, and she fell on the floor, from which she found herself unable to rise. The first severe pain passed off, but left behind it such extreme soreness that she was completely helpless. In this condition she remained until discovered by a member of the family an hour after. When first seen by Dr Abbot, several hours later, the patient was in bed, quite free from cerebral symptoms, able to draw up and extend her limbs with perfect ease, and complaining only of excessive soreness of her legs, the most moderate, even a light touch on either leg causing much pain. There was no other complaint; sensibility seemed to be perfect. The impression produced by the first aspect of the case was that the condition was the effect of a very severe cramp of the muscles of the legs, probably reflex in character and the result of indigestion. The patient's condition remained the same for about twenty-four hours; at this time there occurred an occasional involuntary escape of urine, although in general the discharge could be controlled. The cutaneous hyperæsthesia continued, and was the principal subject of complaint. On the fourth day she began to speak of her back, saying that the slightest motion caused her pain; the over-sensibility of the skin continued. On examining the back there was found extreme sensitiveness to pressure over the lowest lumbar vertebra and the whole length of the sacrum. The slightest attempt to change her position or to turn over in bed caused an outcry of pain. There was at this time very little incontinence of urine. The left leg seemed a little weaker than the right, and could not be so easily drawn up. Cutaneous hyperæsthesia less marked. The symptoms gradually subsided, and by the eleventh day the dorsal pain and the morbid sensibility of the skin had disappeared, and the patient could stand with support, the left leg being much more feeble than the right. The improvement steadily continued, until at the end of the third week she could walk about without support, limping somewhat on the left leg.

Very little drug treatment was employed in this case, the patient being averse to the use of medicine, and the indications not being urgent. Two or three small doses of ergot were given on the first day, but it was so distasteful to the patient that its use was abandoned. An india-rubber bag filled with hot water gave great relief to the pain in the sacrum, and mild sedatives were used to insure sleep. No fever was observed during the attack, and the constitution was but little depressed by it.

Interesting features in this case are the suddenness of the attack, and its probable origin in a reflex irritation of a part of the spinal cord, arising from indigestion, leading probably to congestion followed by effusion, with the symptoms due to pressure and subsequent local inflammation, and the rapid recovery of a person of such advanced age.

Dr. Abbot remarked that the case would seem to throw some light on the question of the origin and possible effect of cramp of the lower extremities which so commonly occurs at night, and which is relieved by the change from a prone to an erect position and by straightening the limbs. In this connection he referred to the case of a lady who for many years has been unable to sleep in her bed on account of nocturnal cramps, but passes her nights in a semi-recumbent position on a couch, with her feet most of the time on the floor. There would seem to be a condition of the circulation in the spinal cord while the body is in the horizontal position favorable to the occurrence of the phenomena in question.

Dr. Webber, in commenting on the case, said he had never seen one exactly similar. Most cases come on insidiously; if it were congestion alone the symptoms would have passed off more rapidly. He thought the case more consonant with inflammation.

Dr. Abbot remarked that the case accorded with cases described by Hammond as congestion of the spinal cord. He thought that inflammation of one week duration was a rapid course for the same.

Dr. Webber further said that the line between congestion and inflammation is hard to draw. Light cases do not come to autopsy. A congestion could not continue long without increase of nuclei and inflammatory changes.

Anæsthesia caused by Injection into the Rectum of a Solution of Carbolic Acid. — Dr. C. P. Putnam reported the case. A boy four years old had four or five discharges daily from the bowels containing blood, and it was proposed to wash out the colon with water containing carbolic acid. Two teaspoonfuls of the liquid crystals of carbolic acid were put in two pints of water, and three quarters of this whole mixture were slowly injected into the rectum without giving rise to any pain ; this amount was considered enough ; the nozzle of the syringe was removed, and the patient said something " became numb and commenced to jerk." The respiration was 30 in the minute, and superficial ; the pulse 168 at first, but in the course of the next two hours it fell to 120. Brandy was injected subcutaneously, and the bowel washed out with water continuously till the water returned free from odor. At the end of two hours the patient showed some signs of consciousness and said a few words ; he then slept two hours longer, apparently naturally, and next day was as well as ever. He was perfectly anæsthetized, for the subcutaneous injections gave rise to no muscular reaction. Dr. Putnam had tried the same method before in a weaker solution without much effect. On a previous occasion he had used a creosote injection in a child, and during it the child had fallen asleep. In this case it was a question whether the anæsthesia was the result of the local effect of the carbolic acid, or whether it was the result of absorption. The anæsthesia had been observed in a very short time indeed.

Dr. Warren spoke of a case of poisoning by carbolic acid in which the liquid crystals had been drunk ; instantly the person fell down, and death followed shortly after. He asked about the character of the urine in Dr. Putnam's case.

Dr. Putnam answered that the urine was said to have been dusky after recovery in his case at first ; when seen by him the next day the urine was not dark nor was there any unusual odor about it. The heart was not paralyzed, as in cases of fatal poisoning reported, but, on the contrary, it seemed to be stimulated. There was no cyanosis. There was no symptom which might not have occurred in ether anæsthesia.

April 22d. *Chronic Ulcer of the Duodenum. Congenital Absence of Left Kidney and Ureter.* — Dr. G. J. Arnold, present by invitation, reported the following case : R. G., a house painter, fifty years of age, married, had had one attack of painter's colic some five years before. For the past six or eight years had suffered occasional attacks of a similar character to that for which he entered the hospital recently. Two months before his entrance he had been suddenly attacked with distress in the epigastrium in the night from no known cause, and on getting out of bed became dizzy, and fainted. On the next night he had cramps in his limbs, accompanied by general numbness and a distortion of the mouth, which symptoms lasted half an hour. The "cramps" have recurred several times since, unaccompanied by the other symptoms. From the commencement of the attack to his entrance into the hospital, some two months, he had suffered from nausea and vomiting daily. His breakfast was usually retained without pain, but by three o'clock in the afternoon (dinner at twelve to one) he had distress in the epigastrium, sometimes extending to the left but never to the right hypochondrium; at the same time he had eructations of wind and flatulency, and his bowels would "knot up." These symptoms had usually continued till midnight, or he had vomited three or four times. If nothing at all was eaten he vomited large quantities of a whitish, foamy, sour liquid. He never had had hæmatemesis. All his food distressed him. The bowels were constipated. Enemata brought away light-colored stools. Micturition normal. Had lost flesh and strength. In general appearance the patient was thin, pallid, and languid.

He was ordered to keep in bed, and to have a pure milk and lime-water diet; warm water enemata daily if needed. Morphia was given as occasion demanded, and iodide of potassium three times a day in two-grain doses; also quinine and strychnia in small doses. The pain diminished for a few days; the quinine and strychnia were omitted, and the iodide increased to ten grains three times a day. For a week there was no nausea or vomiting, and the patient was then allowed toast, milk, and mush. A week later pain had returned, and was of a grinding character. The iodide was omitted. Vomiting recurred, and the skin was noticed to be of a straw color. The next day in the evening he vomited over two quarts of a brownish homogeneous fluid, which contained blood corpuscles, fat globules, starch granules, and sarcinæ ventriculi. It was then learned that the patient had vomited a like quantity of a similar fluid a few nights before. He had also vomited the same a year before, and again six months before. The stools which followed the enema were on this day dark brownish. Patient complained of a dull ache low in the epigastrium. On deep pressure over the region of the pyloric orifice there was found to be a tender spot about the size of a robin's egg. There was also tenderness along the greater curvature of the stomach. The skin was noticed to be more yellow. Vomiting was preceded or accompanied by slight convulsions of the limbs and face.

The next day in the evening he vomited about one quart of fluid quite similar to that before spoken of. The patient was much exhausted, and complained of difficulty of micturition. The next twenty-four hours he progressively failed and about midday had tonic convulsions of the whole body. At this time there was almost complete absence of the cardiac second sound. Vomiting and complete relaxation soon followed the above condition. After lingering till late in the afternoon in a semi-comatose condition he died.

Dr. E. G. Cutler showed the specimens. The ulcer was on the posterior wall of the duodenum, just outside the pyloric end of the stomach, and was about as large as the ball of the thumb; it extended nearly through the muscular coat of the duodenum, and behind it was a portion of the head of the pancreas. An eroded vessel, evidently an artery, opened into one end of the ulcer, and a small clot protruded from its extremity; on dissection it proved to be a branch of the pancreatico-duodenalis. The stomach was dilated, its muscular coat hypertrophied, and its mucous coat thickened, and in a state of chronic catarrh. It was filled with a quart or more of coffee-colored fluid, which same was also found in the upper part of the small intestine. The left kidney and left ureter were wholly absent. The left spermatic vein ended at right angles in a vein which came from the left supra-renal body and passed directly into the ascending vena cava. These two veins were of the same size as the right spermatic and right renal veins. There were two small arteries, a little larger than knitting-needles, which supplied the left supra-renal body, which latter was of normal size and appearance. The left renal artery was wholly wanting, and there was no artery which might answer to it. The bladder did not present the usual trigone, the muscular band on the left and the opening of a ureter being absent, and no dimple or depression present suggestive of an attempt at a ureter. There was nothing unusual about the right kidney or its blood-vessels, except the size of the organ, which was not above the normal. Its weight was about six ounces, and nine papillæ were counted, one being a double one.

DR. BAKER had seen a case where there had been malposition of the ureter opening, which was so located that the secretion from the corresponding kidney could be collected. From the small quantity of urine secreted he had been led to diagnosticate atrophied or congenitally small kidney on that side.

Diphtheria. — DR. HALL CURTIS read a paper on some cases of diphtheria, which will be published in detail.

DR. BOWDITCH asked if any evil effects had followed the use of salicylic acid in these cases. Death had been reported after its use.

DR. CURTIS answered that he had seen only head troubles of little account, and an erythema becoming a papular and subsequently a pustular eruption.

DR. WHITTIER had seen some persons in advanced years who were subsequently affected with depression, and a condition which was evidently not due to the rheumatism for which salicylic acid had been given; having in mind these cases he would give it cautiously in aged people.

MAY 13th. *Surgical Dressings with a View to their Preservative Properties.* — DR. BRADFORD showed some specimens of meat done up in different dressings, and said that it was admitted that the main principle in surgical dressings consisted in the prevention of putrefaction of the discharges and dead organic matter about the wound. There had been a number of experiments as to the relative value of different antiseptics, but few, if any, as to the protective power of different dressings.

A piece of meat dissected from a freshly killed kitten and put in a bottle which had been rinsed out with carbolic acid (1 to 20) putrefied in three days. This was the case in a bottle corked and in one left open. A piece of fresh meat placed uncovered on a table at the side of the bottles dried up, and eleven days later gave no odor. A piece of flesh wrapped in a water dressing became foul in three days. Flesh dissected out under spray and placed in a Lister dressing (antiseptic gauze) at the end of three weeks was found perfectly fresh, not being at all dried. Flesh wrapped up in lint wet with terebene at the end of three weeks was fresh and not dried. The same wrapped in lint wet with compound tincture of benzoin remained sweet, but dried. Labarraque's solution (1 to 10) poured on a cloth and wrapped about the meat delayed putrefaction, but did not entirely prevent it. At the end of three weeks the meat was foul, but not as putrid as that in the water dressing. The same can be said of a solution of sulphite of soda 1 to 10. A mold was found on this dressing, which on examination was seen to be penicillum glaucum. Meat wrapped up in dry cotton cloth, Dennison's absorbent cotton, oakum, salicylicized tow, or lint soaked in benzoic acid became desiccated. Meat not dipped in carbolic acid and covered with gold-beater's skin to prevent desiccation was not protected, when wrapped in cotton, from becoming at the end of three weeks slightly putrid. A piece of meat, however, placed in a glass tube, the end of which was stopped by cotton, without any treatment by carbolic acid, dried and remained free from putridity. The cotton in this case did not act by absorbing the fluid and desiccating, as it was so placed as not to touch the meat. Meat completely covered over by vaseline remained fresh. Pieces covered by fuller's earth and charcoal became dry, and remained free from odor. The piece of flesh which at the end of three weeks was the freshest, being as soft as when first dissected off, and entirely free from odor, was that wrapped in the antiseptic gauze. The next in excellence of preservation was that in lint wet with terebene. It has been stated that Lister's success is perhaps not due to any antiseptic (in the strict sense of the word) action of the dressing, but to the cleanliness his method enforces.[1] As far as experiments on dead flesh can bear testimony, it seems evident that there is a strictly antiseptic action in Lister's gauze dressing.

Dr. Greenough thought there was a difference between keeping dead tissue and the preservation of living tissues in a wound, and hence the experiments of Dr. Bradford did not show much.

Dr. Bradford answered that there was necessarily dead tissue in every wound, and the idea of all dressings was to keep this dead organic matter from decomposition, and that which did this the best was therefore the best dressing.

Dr. Hodges, speaking of Lister's method, said that there were several elements which entered into the success of the treatment. Drainage is one of the chief features, and doubtless has a great influence in making the treatment successful. Compression, from the large amount of material used, is another; the absence of the usual disturbance in the infrequent removal of dressings another; so that to estimate the individual value of these different elements is difficult.

Dr. Ellis spoke of the efficacy of rest and compression in the treatment of chronic ulcers of the lower extremity.

Dr. Langmaid had discarded the water dressing some time ago, and made large use of the compound tincture of benzoin, which had the additional advantage of rendering the bandages stiff and immovable, and thus insuring perfect rest. He regarded this as a better dressing for injuries of the fingers than carbolic oil, which he had also tried largely.

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[1] Journal, May 2, 1878, page 571.

Nitrite of Amyl as a Nervous Sedative. — Dr. Lyman referred to the efficacy of nitrite of amyl in a case of the opium habit, where after two or three nights of complete wakefulness, consequent on breaking off the habit, a nervous irritation had ensued, most distressing to the patient and the friends. He had caused the patient to inhale the nitrite directly from the vial; two or three whiffs had been sufficient to bring on the therapeutical effects, which were followed by refreshing sleep. The flushing of the face had been the criterion for ceasing the use of the drug in this case.

INSANITY AND ITS PREVENTION.[1]

It has been alleged that our asylum superintendents have devoted themselves to the treatment of insanity to the neglect of efforts for its prevention. This allegation is partly true from the nature of the case, but has been made too sweeping in its application. Year after year, in their recognized channels of communication with the public, — their annual reports and the journal of their association, — they have sent out suggestions which, taken together, leave but little new to be said on the subject. Moreover, from time to time, specialists have published books or magazine articles containing much valuable information bearing directly and indirectly on the prophylaxis in mental disease. There has been no lack of warning or instruction in this country, however it may have been in England, and yet by reason of a general neglect to profit by it, each new effort in this direction should be heartily welcomed.

Perhaps sociologists, moralists, and public educators have been waiting for some elaborate system, or expecting a startling discovery, and have underrated the importance of the few simple and often self-evident directions which for years have been within easy reach. No doubt some platform sensationalist might put these maxims of common sense into axiomatic form, and with a prelude on some wholly irrelevant subject get the public ear. At any rate those who read Dr. Tuke's very instructive little book will find a new name for an old thing, and in the term *autoprophylaxis* may discover a potent charm such as they have hitherto failed to find.

In Parts I. and II. the author endeavors to infer the probable comparative amount of insanity in ancient and modern times from the relative prevalence of its chief causes. Those used in this test are intemperance, poverty, and moral and intellectual causes. In Part III. he treats of the self-prevention of insanity.

The control or removal of these causes as they affect the community is the province of social science, and implies the use of almost superhuman powers. To the individual the task is easier, at least in respect to the first two, since intemperance and sexual excess may usually be avoided, and in our country, at least, poor nutrition is oftener the result of not knowing *what* to eat than of an inability to get *enough* to eat. The avoidance of psychical causes is a more difficult matter. The practice of all the moral virtues is to be assumed, and something more in the way of educated self-control and moderation. At the best, each one is necessarily exposed to the vicissitudes of life, and to great emotional crises which tend to destroy the balance of even a healthy mind. False methods of education have usually wrought their mischief before the student has arrived at an age to profit by Dr. Tuke's note of warning. This warning has been many times repeated, and is of late having some effect, at least in Boston, where the faults of our system of education are freely discussed. Dr. Tuke refers to the writings of Drs. Ray, Earle, Cook, and Smith, as well as other American alienists, in his remarks on "young America," a term less familiar to our ears now than formerly.

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[1] *Insanity in Ancient and Modern Life, with Chapters on its Prevention.* By Daniel Hack Tuke, M. D. London: Macmillan & Co. 1878. 8vo. Pp. 255.

The insane temperament is not difficult of recognition, at least by physicians. Persons with a more or less insane ancestry may expect to have it, as well as others who inherit a susceptible brain by reason of intemperate, consumptive, or neurotic parents. It occurs in several forms, of which Dr. Tuke mentions the weak-minded, the melancholic, the nervous, the excitable, and the depraved. Those who are conscious of the above predispositions, and also all persons who have been violating the laws of mental hygiene, should take warning by the following signs, namely, inability to sleep, dull headaches, inaptitude for the duties of life, unwonted irritability, moroseness, suspiciousness, fear of the future, indecision, want of reality in the appearance of things, in fact, by any change in the kind or degree of their mental operations. Undue exhilaration, alternating perhaps with despondency, is as suspicious a symptom as those of a more distressing nature.

In averting a threatened attack of mental disease, the importance of "cheerfulness, rest, and a moderate diet" is inculcated. This advice is certainly of very respectable antiquity, emanating from the school of Salerno, founded by Charlemagne, and Dr. Tuke's enlargement of this theme is especially instructive. Of all things, *excess* is to be shunned. Extremes are always hurtful. Asceticism and dissipation may lead to the same goal. Life at high pressure is sure to end in mental bankruptcy. An aimless existence is equally disastrous.

In regard to diet, beer and light wines in moderation are commended as useful to some and harmless to most. Beyond a very moderate use, no agent is more directly influential in producing insanity than alcohol. Coffee is regarded as a useful stimulant, and tea as very nutritious from the large quantity of fat and albuminoid substances it contains. The brain requires a due supply of nitrogen, potash, soda, phosphorus, and sulphur. Excess of starch and fat delays the change of nitrogenous tissue. The following calculation is given (authority not stated) of the ratio in force-producing value of the following articles of diet: One ounce of oatmeal, when oxidized in the body, will give rise to energy or heat sufficient to raise one hundred and fifty-two tons one foot high; one ounce of sugar, one hundred and twenty-nine tons; one ounce of bread, eighty-three tons; one ounce of meat, fifty-five tons; one ounce of potatoes, thirty-eight tons.

Besides much information of vital importance to every person predisposed to insanity, the book contains valuable statistics in relation to the increase of insanity in England. We earnestly recommend it to the public and the profession. Let no one complain of a lack of advice until its maxims are put in practice. T. W. F.

THE PRELIMINARY COURSE OF THE JOHNS HOPKINS UNIVERSITY.

We give elsewhere the announcement of the course of study which it has been decided to adopt for those students who are to prepare themselves for the study of medicine. The course is of three years' duration, and will consist in the first year of chemistry, mechanics, physics, and modern languages, and in the last two mainly of anatomy and physiology; at the end of this course the graduates will be prepared to enter the medical school, the plan of instruction in which, so far as we know, has not yet been decided upon. For this preliminary work it is proposed, although not yet definitely decided, to grant the degree of Bachelor of Medicine. It will be seen that the arrangement differs materially from that offered by Dr. Billings, in the series of lectures to which we recently called attention. The object of this plan, as now arranged, is evidently the giving instruction in those subjects only which have a direct bearing upon the student's future studies and pursuits, it not having been thought necessary to give the future student of medicine the benefit of a liberal education, such as could be obtained in the academic course, and in accordance with the suggestions contained in the lectures alluded to.

We confess to a feeling of disappointment on reading this plan of the trustees. It seems almost equivalent to the announcement that an A. B. degree is not desirable for the education of a physician, and although with certain additional examinations this degree may be obtained, it can hardly be considered as ranking with those of our best universities, and must inevitably lower the value of the Johns Hopkins academic diploma rather than gain itself by the association.

It has all the flavor of a high-school rather than a university course of study. The standard for admission to this department is lower than that to the academic course, and the character of the studies must inevitably be narrowing in its tendency, confined as they are to the requirements of a single profession.

Coming at a moment when it is hoped that a better educated class of men will study medicine, as has been shown already in those schools which have raised their standard, where university graduates are rapidly on the increase, it cannot be regarded other than a misfortune that so prominent a school, and one from which it has been hoped in every quarter that an altogether higher education was to be offered, should present such a substitute for a liberal education.

In the next place, it is possible that such a course as this will attract a class of students who may be inclined to take unfair advantage of it, and that Johns Hopkins University will be obliged to father a certain number of bachelors of medicine, in full practice of their profession, who have availed themselves of their three years' proximity to a hospital to get a smattering of the practical work. There are many minor criticisms to be made, such as the omission of botany and geology from such a course; the presence of psychology, which ought to be studied only by the advanced medical student, and the invasion which it makes upon the regular course of medical instruction, to say nothing of the inappropriateness of the title, — faults which are almost the inevitable consequence of an attempt to construct a hybrid department. The university diploma is the lowest standard which such a school can afford to adopt, if it is to take the high rank that medical teachers throughout the country hope and look for. In addition to its own diploma those of certain other of our best universities might be accepted, or the student be subjected to a preliminary examination which would in all respects be the equivalent.

MEDICAL NOTES.

— Up to the beginning of this week the epidemic of yellow fever has abated but slightly, although the progress towards improvement in its character was steady during the last two weeks. The deaths for the week in New Orleans were fewer by nearly one hundred than in the previous week. The daily decrease in number is not striking, however. The total number of deaths in New Orleans, up to Sunday, was 2470. According to the papers, Surgeon-General Woodworth has received from a lady $250, given on condition that a sufficient amount be contributed to pay the expenses of a commission of experts, to be selected after consultation with the leading members of the American Public Health Association, to investigate the yellow-fever epidemic, the nature and cause of the disease, its treatment, especially its prevention; and the National Relief Association have adopted a resolution, calling upon the chambers of commerce of New York, Philadelphia, Boston, Baltimore, St. Louis, Chicago, and Cincinnati, asking each if they will contribute, and how much, to aid the necessary investigation. If the responses are favorable, the National Relief Commission pledges its material coöperation. The expenses of such a commission would be about $6000, and the investigation should be commenced while the epidemic is in progress, and completed after it has ceased. On Monday there were but fifteen deaths in New Orleans.

We shall look with interest to see the effect of the present cool weather upon the further progress of the disease. There can be little doubt that the epidemic is approaching its end.

— A letter from Brazil states that out of seven hundred men engaged in building a railroad from Madeira River to Bolivia but ten were on the sick list, though it was the "unhealthy season." They were mostly from the United States. The temperature in the sun often rose to 120°, but not a case of sunstroke occurred. "No one here," says the writer, "has ever seen a case of sunstroke in the tropics."

— A correspondent from Chicago writes: Early last spring Dr. Edwin Powell introduced into the surgical wards of Cook County Hospital — our large public hospital — the Lister process of surgical dressings. He had remarkable success with it during the three or four months he was on duty. Pyæmia was for the time banished. When the old medical board was legislated out of office by the Board of County Commissioners, the Lister process went out likewise. But the experience with surgical cases since the beginning of July has been so unfortunate that the new board has compelled the authorities to incur the necessary expense for apparatus, and the process is to be introduced forthwith. As one of the attending surgeons recently said, it has come to this, that a capital operation in the hospital almost means death.

The unfortunate fact is, our great public hospital, so nearly new, and so beautiful to look at, is a reeking hot-bed of hospitalism. Who is responsible? There are three causes: complication in architecture, bad construction, and political management. Antiseptic surgery offers the only available present remedy, — and this is but a partial remedy.

— It is a matter of great annoyance that many exchanges come to us in a hard, tight roll, enveloped from end to end with exquisite care in tough paper, often in triple folds. To fold a journal once lengthwise, attach a simple label, and omit the wrapper is quite enough, and saves the recipient time and vexation. Moreover, in this shape it is more conveniently read, and will lie flat.

— Victims of "hay fever" will be interested in the conclusions of Dr. Woodward, of Worcester, who has made careful microscopic examinations of nearly one hundred plants, and in a communication to the United States Hay Fever Association states that in no plant accused of being productive of summer catarrh has he found pollen of any other shape than globular; that to his surprise, notwithstanding he worked over these plants nearly four weeks, and in spite of the profusion of pollen which lay in all directions upon his books and papers, he did not experience a single symptom of catarrh until the arrival of the dreaded 20th of August. He therefore concludes that the disease is in his system; that no irritation will cause it to appear before the appointed time, but that after that date irritants of any sort will aggravate and increase it. Dr. Beard, of New York, agrees with him. Dr. Marsh, of New Jersey, holds the opposite opinion. In a recent number of the Boston *Daily Advertiser* Dr. Woodward's letter will be found in full.

— Meconoiosin is the name of a new derivate from opium. It crystallizes in leaf-like masses, but its therapeutic nature and ability have not yet been decided.

◆

CASES OF DIPHTHERIA TREATED WITH SALICYLIC ACID, CHLORATE OF POTASH, AND DIALYZED IRON.[1]

BY HALL CURTIS, M. D.,

Visiting Physician, City Hospital.

CASE I. W. S., single, twenty, laborer, entered City Hospital January 2d. Usually healthy. Ten days before entrance he awoke with severe sore throat and headache, followed by frequent vomiting, epistaxis, and diarrhœa.

January 3d. At visit the fauces were much swollen, and deeply congested, cracked, and bleeding. There was also aphonia. Temperature, A. M. 101°; P. M. 103.2° F. He was ordered acidi salicylici, potassæ chloratis, of each five grains in solution every two hours. Throat to be gargled the alternate hours with same mixture and twenty grains ferri dialysati at same time. Steam was turned into his room. He was freely stimulated, and had liquid food every two hours.

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[1] Reported to the Boston Society for Medical Improvement.

January 4th. Throat was still very painful. Poulticed. Temperature, A. M. 101.2°; P. M. 103.2°. His condition gradually improved, the temperature falling till it became normal on the 8th of January. The throat was well on the 13th, and the man discharged well on the 25th.

CASE II. J. T., single, fifty-five, sailor, entered January 8th. No history of syphilis; had been drinking freely for a week past, and slept in a cold room. At visit there was great prostration, with marked loss of power in legs. A shallow ulceration of the side of the palate; also of tonsil and posterior fauces of left side; covered with a thick grayish membrane. The same treatment was used as in former case, and in addition the throat was painted with compound tincture of benzoin. Temperature 101°.

January 10th. Membrane detaching, and less thick.

January 13th. Left tonsil free. Membrane thinner on palate and fauces; ulceration healing. Temperature 99.7°.

January 18th. Up and dressed. Membrane entirely gone. Ulcerated surface less distinct.

January 25th. Pulse 82; temperature 98°. Discharged to Soldiers' Home.

CASE III. S. C., eighteen years, domestic, entered hospital February 6th. Is a very healthy and strong woman. Three days before entrance was taken with headache, backache, and sore throat. The next day was hardly able to swallow or speak. At visit there was prostration, dyspnœa, and partial aphonia; the face and neck flushed and swollen. The uvula and tonsils enlarged and covered with a dirty white membrane. Pulse 114; temperature 101.6°. The same treatment as in the other cases, the atomizer being used in place of the gargle. Steam; poultice to throat; food and stimulants freely.

February 7th. A. M. Pulse 106; temperature 101.1°. P. M. Pulse 114; temperature 101.2°. Sat up all last night without sleep. Lower left back less resonant than right; dry râles through each. At 11.30 P. M. dyspnœa had increased. Pulse 138; temperature 103°. Tracheotomy was done by Dr. Cheever at one A. M. The rest of the night she breathed easily, and though quite restless slept. Stimulants freely given, and treatment continued.

February 8th. At 7.30 A. M., pulse 146; temperature 103.5°; respiration 36. At visit, membrane on right tonsil had diminished, and was flaking off the left tonsil and uvula. She was unable to swallow; nourished per rectum. Died at 2.30 P. M.

CASE IV. N. N., five years old, sent to the hospital from the House of the Good Samaritan, where she had been under treatment for caries of the spine. Entered hospital February 11th. Her throat is generally congested, a patch on left tonsil, and one on posterior wall of fauces; breathes easily. Pulse 120. Ice-bag to throat, steam in room, iced milk every hour.

℞	Acidi salicylici,	
	Sodæ bicarb.	āā ʒ ss.
	Syrupi	ʒ iv.
	Aquæ	q. s. ad ʒ vi.
℞	Potassæ chloratis	gr. xv.
	Aquæ	℥ i. M.

Half a drachm of each every two hours.

Throat to be atomized with same every hour. Dialyzed iron five drops every other hour.

February 18th. Had a good night. Pulse 120; temperature 100°. Urine examined: color pale yellow; specific gravity not given; reaction acid; coloring matter increased; no albumen; considerable sediment; uric acid, and amorphous urates.

February 20th. A. M. Pulse 108; temperature 99.6°. P. M. Pulse 132; temperature 99.8°. Membrane has spread to right side, and is now thick. Glands on left side of neck much swollen. Profuse bloody discharge from nose. Throat atomized every half hour. Nostrils to be syringed at same time. Ten drops of brandy every two hours. Urine: color normal; reaction acid; specific gravity 1035; no albumen; sediment epithelial; granular and hyaline casts; uric acid and mucus.

February 21st. Membrane fully as prominent. Child takes food well. Pulse 125; temperature 99.2°. P. M. Pulse 128; temperature 99°.

February 22d. Weaker. Membrane becoming detached.

February 23d. Pulse 116; temperature 99.3°. P. M. Pulse 120; temperature 99.5°. Membrane on left tonsil partly gone; quite loose on uvula and right tonsil; throat generally less inflamed.

February 24th. Vomits; brandy omitted.

February 25th. No vomiting; brandy resumed. Membrane nearly gone.

February 26th. Refuses food, but will take ice-cream.

February 27th. Now drinks milk again. Urine, color pale; acid. Albumen three fourths of one per cent.; fine granular casts; pus; squamous and sound epithelium; urate of ammonia crystals.

March 1st. Still a very little membrane on soft palate; fauces still congested. Is hungry.

March 8th. Temperature 98.1°. Is well. Discharged.

CASE V. S. F., five years old, a delicate, strumous child, living in a sunny and healthy house, was seen on the 28th of March. He complained of general malaise. The throat was congested. Pulse 144; respiration 20; temperature 102.5°. Five P. M., pulse 112; respiration 40; temperature 103°.

March 29th. Delicate film of membrane on right tonsil. A. M. Pulse 120; respiration 32; temperature 101.2°. P. M. Pulse 112; respiration 28; temperature 102°. Same treatment as in last case: ice-bag to neck, steam in room, milk broth or ice-cream every hour.

March 30th. Both tonsils covered. Cervical glands on each side enlarged. A. M. Pulse 120; respiration 32; temperature 101.8°. P. M. Pulse 120; respiration 36; temperature 101.8°.

March 31st. Soft palate and posterior wall of fauces now covered with membrane; epistaxis; bronchial râles through each lung; ringing and teasing cough; face slightly swollen. Slight haze of albumen in urine. A. M. Pulse 120; respiration 28; temperature 99°. P. M. Pulse 128; respiration 40; temperature 101°.

April 2d. Eruption of measles appeared on face this P. M.

April 3d. Eruption has spread over body. Soft palate and posterior wall free from membrane. A. M. Pulse 104; respiration 28; temperature 99.5°. P. M. Pulse 120; respiration 28; temperature 101.5°.

April 5th. Glands less prominent. Membrane breaking up on tonsils. Offensive and sanious discharge from nose. Nose atomized with above solution of acid and potash.

April 7th. Membrane has entirely disappeared from throat: eruption of measles has faded from upper third of body. Slight diarrhœa.

From this date convalescence was uninterrupted, excepting a subacute inflammation of the glands on left side of neck, and child *walked out* on the 19th of April.

The *first* case had been sick ten days without treatment, and though there was no membrane the throat presented the appearances characteristic of its fall. His great prostration and slow recovery showed it was not an ordinary inflamed throat.

There was no history of syphilis in the *second* case, and the throat readily responded to the treatment.

In the *third* case the membranes were thinning and flaking off after two days of the treatment.

In the *fourth* case a puny child with caries of spine recovered after a long fight.

The *fifth* case was a very delicate boy, and with a complication of measles.

Excepting the third case they all did well, and so far as is known there is no paralysis.

P. S. The last case had paralysis of muscles of pharynx and legs, readily yielding.

SHORT COMMUNICATIONS.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XI.

Office Surgeon-General U. S. M. H. S., Washington, *September* 21, 1878.

Vicksburg. — Epidemic abating. There were 121 deaths during the week ended yesterday evening, a decrease of 113 deaths from the week before. Eleven deaths occurred in the last twenty four hours. Total deaths to date 721.

New Orleans. — During the week ended yesterday noon there were 1401 cases of yellow fever, and 445 deaths, a decrease of 172 cases and 85 deaths as compared with previous week. In the last twenty-four hours reported there were 165 and 69 deaths. Total cases 7538, deaths 2368.

Baton Rouge, La. — The first case of yellow fever reported to the Board of Health occurred on the 14th of August. A previous case, not reported to the board, but thought to have been yellow fever, occurred August 10th. First death August 18th. To nine A. M. yesterday there had been 672 cases and 39 deaths.

Morgan City, La. — During the week ended yesterday evening there were 41 cases of yellow fever and 10 deaths, making in all 66 cases and 18 deaths.

Mobile, Ala. — Four cases of yellow fever and two deaths occurred during the past week, making in all six cases and four deaths.

Grenada, Miss. — For the week ended yesterday evening there were 20 new cases and 37 deaths. Total deaths to date 271. No decrease in virulence of the fever. Dr. Henry Stone, of Natchez, is the only physician on duty.

Pass Christian, Miss. — From September 9th to 20th, A. M., there were six new cases of yellow fever and no deaths. Total cases 21, deaths one.

Biloxi, Miss. — Twenty cases of yellow fever and seven deaths have occurred to September 20th.

Ocean Springs, Miss. — There were 14 cases of yellow fever and three deaths for the week ended yesterday evening. Total cases 51, deaths 12.

Memphis. — Six hundred and twenty deaths from yellow fever occurred during the week ended Thursday evening, September 19th, making a total of 2131 deaths. The number of cases not known to Memphis Board of Health.

Brownsville, Tenn. — During the week ended yesterday evening there were 100 cases of yellow fever and 15 deaths, making in all 130 cases and 44 deaths. The deaths for the week ended September 14th were 29, instead of 9, as stated in last report.

Hickman, Ky. — Forty-two deaths from yellow fever occurred during the week ended yesterday evening. Sixteen new cases and three deaths during the last twenty-four hours. Total cases to date 205, deaths 74.

St. Louis. — During the past week there were six deaths from yellow fever, four of which were at quarantine. All refugees.

Louisville. —Eighteen cases of yellow fever and eight deaths for the week ended yesterday evening. Total cases 77, total deaths 26 ; all refugees.

Cincinnati. — Five cases of yellow fever and one death during the week ended yesterday evening; all refugees. Total cases 30, deaths 13.

Gallipolis, Ohio. — Since the last report, to September 18th, there was one new case of yellow fever and three deaths, making in all 28 cases and 12 deaths, all traceable to the infected steamer John D. Porter.

Indianapolis, Ind. — One refugee died of yellow fever September 17th.

Bay St. Louis, Miss. — Fifteen new cases of yellow fever occurred during the last week. Deaths not reported.

Cairo, Ill. — Three new cases yellow fever since last report. Two died in Cairo, and one went to Mound City, eight miles from Cairo, and died there.

Havana. — Fifty deaths from yellow fever and four from small-pox during the week ended September 14th.

Key West, Fla. — Six cases of yellow fever and five deaths during past week.

Morocco, Africa. — Asiatic cholera has appeared in the cities of Mequinez and Fez, Morocco, causing the death of from 20 to 30 victims daily in the former city, which is about 170 miles from Tangier. Information of the disease came to Felix A. Mathews, consul of the United States at Tangier, and in his capacity as president of the Board of Health of Morocco he dispatched Dr. Tadeo Martinez, formerly of the Spanish navy, to visit Fez and Mequinez. Dr. Martinez left Tangier August 7th with an escort of 200 Moorish troops, and, after forcing his way through the lines of revolutionists besieging Mequinez, entered that city on the 14th of August, where he found the disease to possess all the well-known characteristics of Asiatic cholera. From a report obtained from the custodian of the Jewish cemetery, the number of deaths of the Israelites since the first appearance of the disease exceeded four hundred. The disease was reported to have spread to Sherarda, a province bordering on the city of Mequinez. Dr. Martinez attributes the disease to the unsanitary condition of the city, but Consul Mathews suggests the possibility of the germs of disease having been brought by the thousands of pilgrims returning from Mecca. The unsanitary condition of the crowded cities of Fez and Mequinez is described as "entire want of precautionary measures of cleanliness within and without the houses. In some quarters offals, filth, dead animals, and dirt of all kinds and origin are allowed to accumulate from year to year until they reach the level of the windows, creating inexpressibly repugnant exhalations of the most deadly and life-destroying miasm." The port of Tangier and its environs are free from any infectious disease.

Calcutta. — Nine deaths from cholera: week ended July 20th.

Bombay. — Thirty deaths from cholera: week ended July 30th.

John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

Johns Hopkins University, Baltimore. — *Preliminary Medical Course.* — *Chemistry, Physics, and Biology, with French and German.* — The Johns Hopkins University will organize at the commencement of the session 1878–79, a course of instruction preliminary to the study of medicine. This course will have the object of giving the student a liberal education, but one rather scientific than literary, and including a thorough knowledge of the structure and functions of the human body in health. At its completion, the student will be prepared to enter at once upon medical studies proper; *i. e.*, the phenomena of disease, and its origin, nature, prevention, and cure.

The course proposed will extend over three years; but students who, on entry, pass a satisfactory examination in the subjects prescribed for the first year's study, will be allowed to enter upon the second year's studies at once.

Before admission to this preliminary medical course, students who are not matriculants of the University will be required to pass an examination, partly written and partly oral, in the following subjects: —

Elementary Mathematics. — Arithmetic; Algebra; and three books of Euclid, or an equivalent amount of Geometry.

The examination in Algebra will be confined to the following: Definitions and explanations of algebraical signs and terms; addition, subtraction, multiplication, and division of algebraical quantities, including fractions; the elementary rules of ratio, proportion and variation; easy, simple equations involving not more than two unknown quantities.

Latin. — Translation of passages from the first four books of Cæsar, De Bello Gallico; and of the sixth book of the Æneid. The elements of Latin Grammar, especially Accidence.

Candidates who obtain permission from the Faculty of the University, at least a fortnight previous to the examination, will be permitted to offer themselves for examination in equivalent portions of other Latin classics than those presented above.

Every person will be required in his answers to conform to the rules of English Grammar, including orthography, and no candidate will be approved who fails to satisfy the examiners in this respect.

In addition to the above subjects, candidates may offer themselves for examination in French and German, and those who pass will be excused from attendance upon the instruction in those languages during the subsequent first year's course of studies.

The examination in French and German will test the candidate's knowledge of the grammar of those languages, and his ability to translate at sight easy passages from prose authors.

Matriculants, and students who have passed in all the above compulsory and voluntary subjects of the entrance examination, who shall also pass an examination in Elementary Mechanics, in Experimental Physics and in Chemistry, will be permitted to enter at once upon the second year studies of the Preliminary Medical Course, taking up Drawing, unless they previously pass in it also, during that year.

Course of Study. — *First Year.* — Experimental Physics. (Lectures and Laboratory work.) Elementary Mechanics. Chemistry. (Lectures and Laboratory work.) French and German. Drawing. (Free hand.)

Second Year. — Chemistry. (Continued.) General Biology. (Lectures and Laboratory work.) Elementary course in Comparative Anatomy and Zoölogy. (Lectures and Dissections.) Elementary course in Physiology and Histology. (Lectures and Laboratory work.) Human Osteology and the Anatomy of the Ligaments and Joints. Logic.

Third Year. — Human Anatomy; Advanced course in Physiology and Histology; Elements of Embryology; Psychology.

At the end of each academic year there will be an examination in the subjects of study for that year students will not be permitted to enter upon the next year's work until they have passed this examination.

Those who pursue successfully this course will be eligible, without further examination, for admission to its medical school when organized. This course is, however, designed to meet the requirements of students who wish to obtain a sound scientific basis for their professional studies, whatever medical school they may afterward select for the purpose of carrying on the latter.

The successful prosecution of this course will entitle the scholar to a formal diploma, certifying to his special attainments. It has been suggested that this diploma should be that of Bachelor of Medicine, and that an effort should thus be made to give this degree its proper significance and importance. The conclusion of the authorities on this subject will be hereafter announced.

Those who have passed the matriculation examination of the University, and who, in addition to the subjects of the preliminary medical course, shall pass a satisfactory examination in one other of the subjects laid down for the B. A. degree, will receive that degree.

Expenses. — The charge for tuition is $80 per year, and there are small charges for laboratory materials. Free scholarships are provided for those young men, coming from Maryland, Virginia, and North Carolina, who need assistance. The expenses of living in Baltimore, including table, room, lights, fuel, and service, should not exceed $35 per month, and those who choose, may live for a considerably smaller sum.

The term begins September 24, 1878, and extends to the following June, with two short recesses.

Appointment. — The chair of Practice of Medicine in the Woman's Medical College of Chicago, made vacant by the resignation of Dr. Quine, has been filled by the appointment of Dr. H. M. Lyman.

Dr. Theodore H. Jewett, of South Berwick, Me., a prominent physician of that State, died suddenly at the Crawford House, White Mountains, on Friday last, it is said of heart disease.

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COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Sept. 14, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	458	21.79	23.42	28.71
Philadelphia.	876,118	270	16.03	18.80	21.54
Brooklyn.	549,438	228	21.58	21.51	25.50
Chicago.	460,000	163	18.43	17.83	22.39
Boston.	375,476	152	21.05	20.10	24.34
Providence.	100,000	28	14.56	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	18	17.05	20.06	22.30
Cambridge.	53,547	33	32.04	18.69	20.83
Fall River.	53,207	20	19.55	21.35	24.96
Lynn.	35,528	15	21.96	20.42	19.67
Springfield.	33,981	8	12.25	16.02	19.77
Salem.	27,140	12	22.99	20.38	21.15

◆

Suffolk District Medical Society. — A regular meeting of the society will be held at 36 Temple Place, on Saturday, September 28th, at seven and a half o'clock. The following papers will be read: —

Dr. F. H. Davenport, A Case of Tubercular Meningitis.

Dr. Walter Ela, On the Use of the Elastic Ligature in Fistulous Tracts.

Dr. Charles H. Williams, Thymol, and some of its Advantages over Carbolic Acid.

Dr. Ephraim Cutter, On the Asthmatos Ciliaris, a Rhizopod found in the Nasal Discharges of Persons suffering from Epidemic Influenza and Coryza. (Two lantern pictures.)

Supper at nine o'clock.

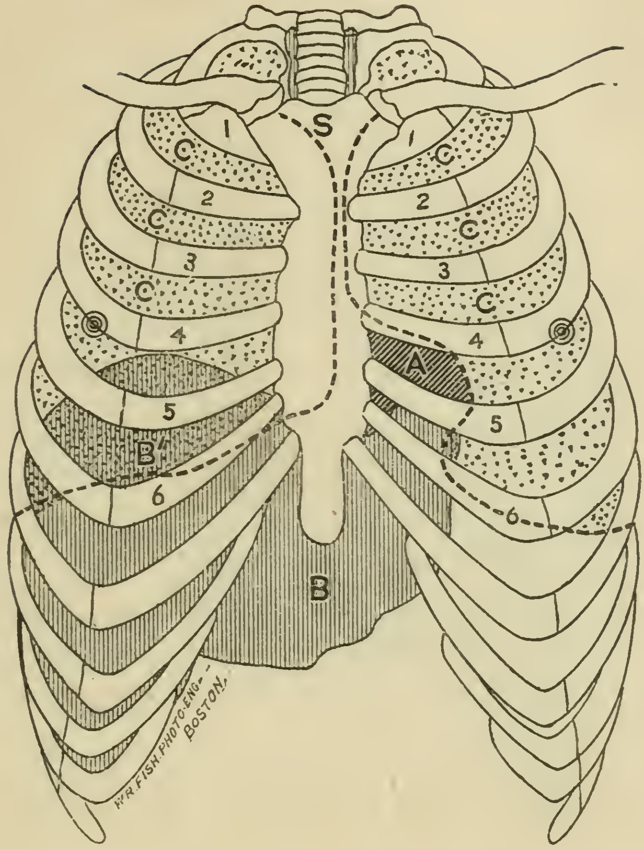
The Gynæcological Society of Boston. — The next regular meeting of the society — the ninety-fifth — will be held at the Evans House, the first Thursday in October, at two o'clock, P. M. Doors will be opened to the profession, who are cordially invited to be present, after the transaction of society business.

Henry M. Field, M. D., *Secretary.*

Books and Pamphlets Received. — Strictures of the Cervical Canal. By A. Fredrik Eklund, M. D., Upsala. Translated from the Swedish Nordiskt medicinskt Arkiv, Band viii. By A. Sibley Campbell, A. B., M. D. Augusta, Georgia. 1878.

DIAGRAM I.

NORMAL THORAX.



▨ **A** — Physiological area of percussion flatness of the heart on expiration.

▥ **B** — Liver.

▩ **B′** — That portion of the liver which is covered by the right lung.

⬚ **C** — Lung.

S — Sternum.

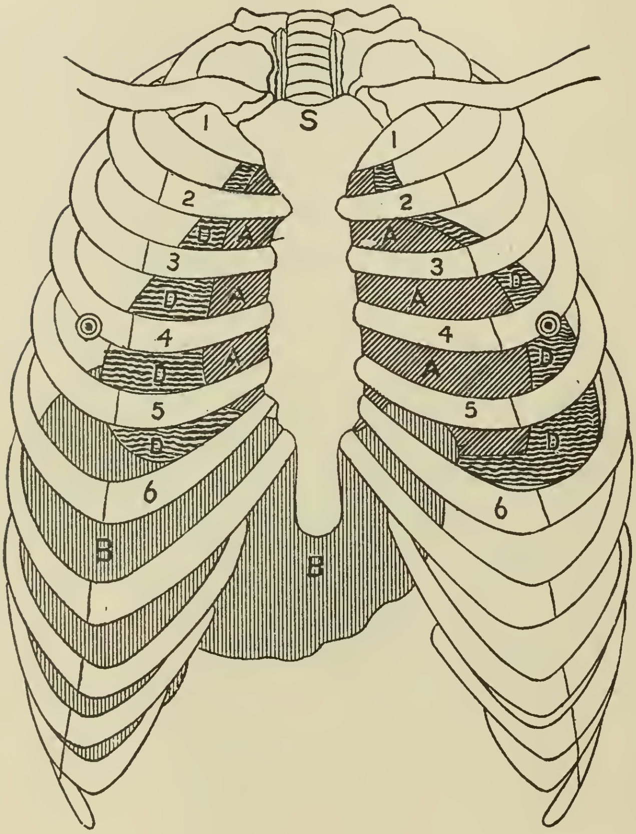
◎ — Nipple.

1, 2, 3, 4, 5, 6 — Ribs.

– – – Broken line — Border of lung.

DIAGRAM II.

THE LUNGS HAVE BEEN REMOVED.



▨ **A** — Normal shape of the heart in its pericardium.

▥ **B** — Liver.

▤ **D** — Effusion.

A+D — The shape which the pericardium assumed, in a case where considerable fluid had been introduced into the sack.

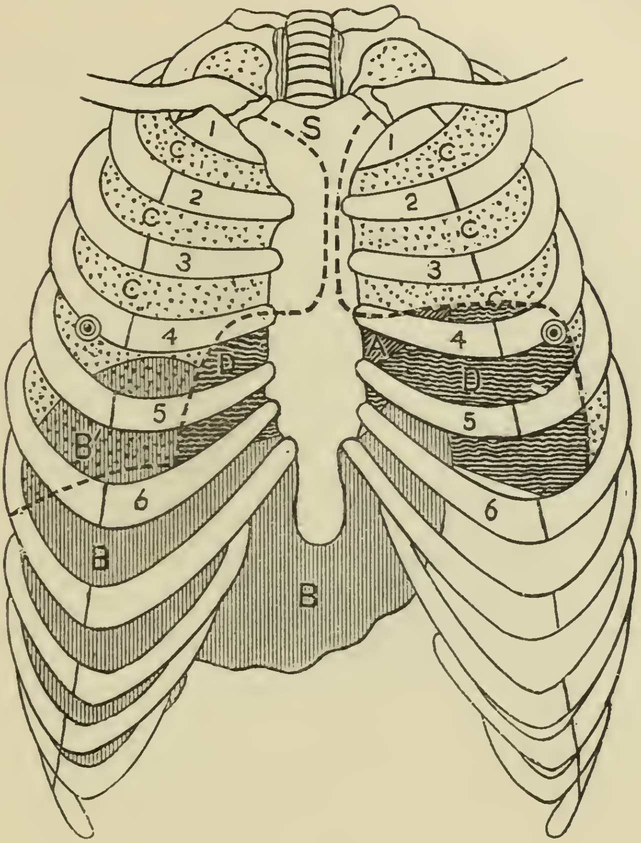
S — Sternum.

◎ — Nipple.

1, 2, 3, 4, 5, 6 — Ribs.

DIAGRAM III.

A Small Amount of Liquid has been Introduced into the Sack.



▨ **A** — The portion of the area of flatness which is still caused by the physiological flatness of the heart.

▥ **B** — Liver.

▩ **B′** — That portion of the liver which is covered by the right lung.

░ **C** — Lung.

▤ **D** — Effusion.

A + D — Area of percussion flatness found when the effusion is small.

S — Sternum.

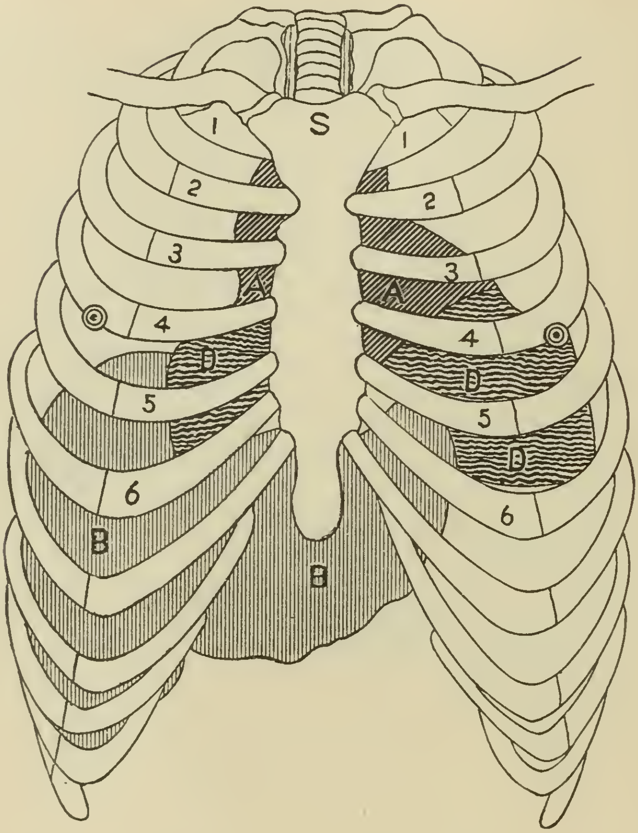
◎ — Nipple.

1, 2, 3, 4, 5, 6 — Ribs.

- - - Broken line — Border of lung.

DIAGRAM IV.

Represents Diagram III. with the Lungs Removed.



▨ **A** — A portion of the normal heart inclosed in the pericardium.

▥ **B** — Liver.

▤ **D** — Effusion as it appeared in the sack, the cocoa butter being in small amount, and the lungs having been removed, after the butter had hardened.

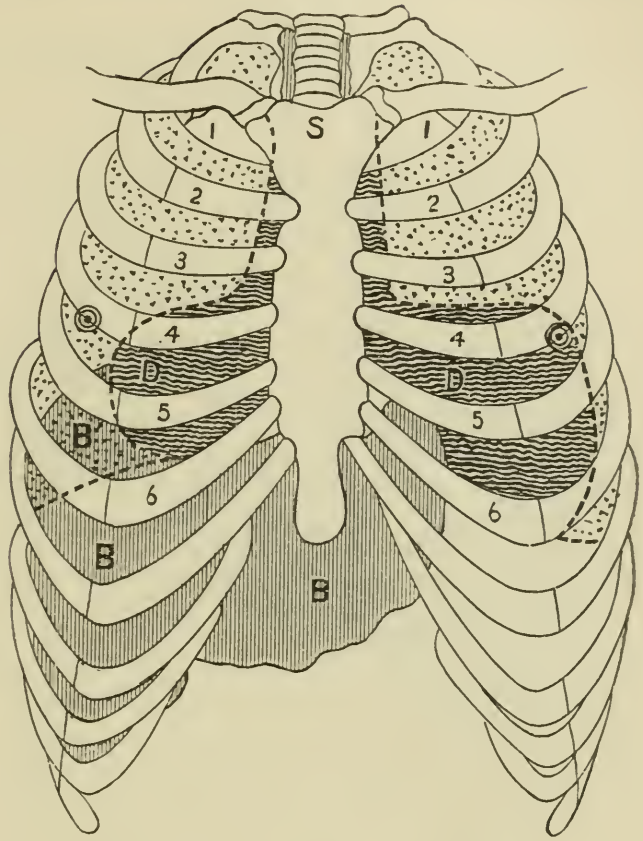
S — Sternum.

◎ — Nipple.

1, 2, 3, 4, 5, 6 — Ribs.

DIAGRAM V.

A Large Amount of Liquid has been Introduced into the Sack.



▥ B — Liver.

▩ B′ — That portion of the liver which is covered by the right lung.

░ C — Lung.

▤ D — The area of percussion flatness caused by a large effusion.

S — Sternum.

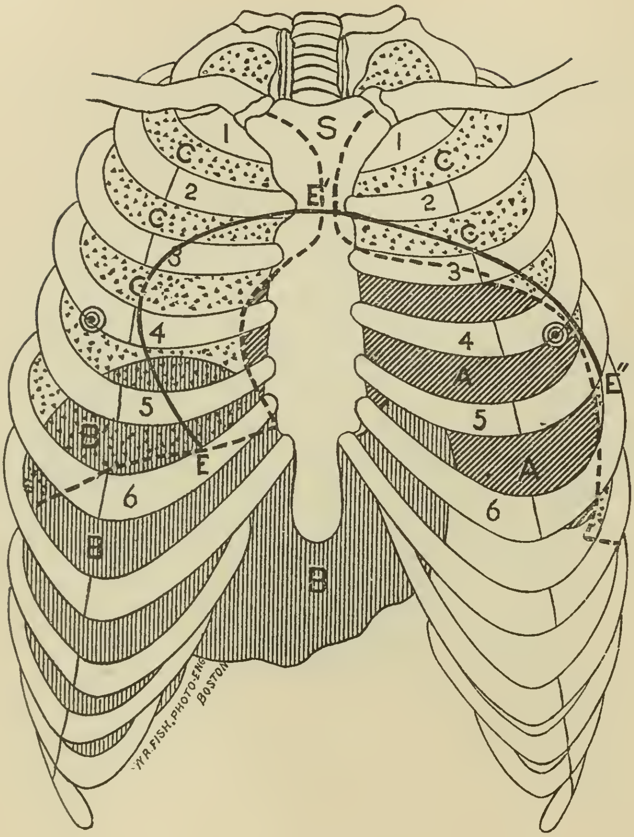
◎ — Nipple.

1, 2, 3, 4, 5, 6 — Ribs.

- - - Broken line — Border of lung.

DIAGRAM VI.

Enlarged Heart.



▨ **A** — Area of percussion flatness caused by an enlarged heart.

▥ **B** — Liver.

▦ **B′** — That portion of the liver which is covered by the right lung.

░ **C** — Lung.

E E′ E″ — The line marking the area of relative dullness of the enlarged heart.

S — Sternum.

◎ — Nipple.

1, 2, 3, 4, 5, 6 — Ribs.

--- Broken line — Border of lung.

THE BOSTON
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ABSENCE OF RESONANCE IN THE FIFTH RIGHT INTERCOSTAL SPACE DIAGNOSTIC OF PERICARDIAL EFFUSION.[1]

BY T. M. ROTCH, M. D.

THE method which was finally adopted was as follows: The subject was placed in the position of orthopnœa, that is, the trunk was bent upon the lower limbs at an angle of about one hundred and twenty degrees. Tracheotomy was performed, and a clamped rubber tube attached to the glass tracheal tube. The lungs were then inflated until the area of heart flatness corresponded to that marked out in Diagram I., which is copied directly from Luschka's plate, and is, as is stated by Luschka, intended to represent the parts in expiration.

After inflation, the tracheal tube was clamped, so as to keep the parts in position, and an incision was made in the median line of the abdomen, up to within two centimetres of the ensiform cartilage; the liver and stomach were next gently drawn aside, and on palpation of the central tendon of the diaphragm, four centimetres below the upper edge of the diaphragm and about two centimetres to the left of the median line, the heart was felt. This part of the diaphragm was then carefully drawn down away from the heart, in order that that organ should not be punctured, and a dagger-pointed trocar, previously filled with melted cocoa butter so as to displace the air, was plunged through the diaphragm into the pericardial sac; at the same time an assistant unclamped the tracheal tube, in order that the lungs might be free to retract before the fluid.

When sufficient fluid had entered the pericardium the cocoa-butter tube was clamped, as was also the tracheal tube. The thorax was then carefully percussed, and the line of flatness marked in ink. After twenty-four hours the sternum was removed from above downwards, remaining attached below, and we had before us the lungs in position surrounding the hardened fluid, and by replacing the sternum and comparing the line previously marked in ink, by means of needles, with the line of the lung around the effusion, we arrived at very accurate results regarding the shape of the area of flatness.

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[1] Concluded from page 393.

The fact that on opening the abdomen the diaphragm remains arched, and that the lung by means of the tracheal clamp retains its position and does not collapse, warrants us in assuming that we can fairly judge of the position of the fluid during life by this method of investigation, especially as the contractility and distensibility of the lung appeared to be perfectly retained after death, excepting in very cold weather, when it was found necessary to warm the cadaver.

The apparatus for the cocoa butter is a simple wash bottle, graded for cubic centimetres.

We must now shortly consider the anatomy of the normal pericardium, and its relation to the heart and lungs. This, so far as the adult is concerned, I have taken mostly from Ferber, Luschka, Sibson, and Shroetter; while in regard to the infant I have made my own dissections, comparing the thoracic organs with those of the adult, and finding, as I have above stated, the relation of the parts so nearly approximating each other in the two that the rules which govern an effusion in one answer for the other.

According to Schrœtter and Luschka, in the normal condition of the thoracic organs, on expiration, we have the flatness of the heart beginning at the junction of the upper border of the fourth left costal cartilage, extending outwards and downwards to the left in rather a curved line, with the convexity outwards, and keeping from two to three centimetres within the nipple, until it joins the flatness of the left lobe of the liver; from the same starting-point at the fourth cartilage, it extends down the left parasternal line, or perhaps a little within that line towards the middle of the sternum, until it reaches the liver, as seen in Diagram I. This figure is at times triangular, especially on deep expiration. We therefore may have a triangular area of flatness over the normal heart, though it is usually quadrangular. Next, supposing that the lungs are removed, we then have exposed to view the pericardium as seen in Diagram II., represented by the area A, and copied directly from Ferber's Situs Phantom. The base of the pericardium is attached to the central tendon of the diaphragm, extends upward, enveloping the heart, and is attached to the great vessels of the heart between the first and second ribs, spreading out on either side of the sternum in pyriform shape, most markedly on the left side of the sternum, but keeping within the mammary line.

The lower border of the upper lobe of the right lung approaches the right edge of the sternum at about the level of the fourth rib; on the left side the upper lobe passes around the heart down nearly to the sixth rib; the middle lobe of the right lung, in the region between the right mammary line and the sternum, extends from the fourth to the sixth rib, where the line of the liver flatness begins. This amount of anatomy is sufficient for our purpose at present.

First, we will consider what takes place when we introduce a small amount of fluid into the pericardium, picking out from my notes a case which may be regarded as typical. January 7, 1878, injected by the usual method, through the diaphragm, a small amount of fluid into the pericardium of an infant of from one to two weeks old. Percussion gave an increase of præcordial flatness, as follows: beginning at the sixth rib, about two centimetres to the right of the sternum, it passed upwards in a curved line with the convexity outwards to the fourth right costal cartilage at its lower edge, then across the sternum to the upper border of the fourth left costal cartilage and outwards and downwards to and to the outside of the nipple, passing down to the sixth or seventh rib, as is seen in Diagram III. There was no vertical increase of flatness. This line of flatness then was a semicircle, with its convexity upwards, and with the radius of that part of the curve which was to the right of the sternum shorter than that which was to the left. What was this flatness caused by? On clamping the trachea and removing the sternum, the area of flatness, marked out in ink, was found to correspond to that part of the pericardium which was uncovered by the lungs; it was found that the lower lobes had retracted before the fluid, and that the fluid had taken the shape which is represented in Diagram III., the normal physiological flatness of the heart forming the upper part of the area of flatness, and the effusion the lower part. The lungs were then drawn aside, and the pericardium, with its contained effusion, was seen to present the form which is shown in Diagram IV., the effusion apparently being drawn up at the sides, where it was thickest, leaving a thin layer below, so that the broadest part of the effusion about corresponded to the top of the curved line. The same result, as to the area of flatness, was obtained whenever a small amount of fluid was introduced, whether in the infant or adult, the increase always being in a line with the lower part of the sternum, and never vertically.

Perhaps it will be well here to describe shortly the case where I was enabled to determine the first signs of effusion in an adult, by the introduction of from seventy to eighty cubic centimetres of fluid, which is from twenty to thirty cubic centimetres less than the smallest amount laid down by authors as being possible to make a diagnosis by.

April 22, 1878. Subject, a female of medium size, who had died of cancer of the rectum: percussion of lungs and heart normal; resonance in fifth right intercostal space well marked. Dr. Maurice Richardson managed the cocoa-butter apparatus for me, keeping his eyes on the graduated scale and his hand on the clamp; the trocar was introduced, and I proceeded to percuss lightly the fifth right interspace about one and one half to two centimetres from the edge of the sternum, until decided flatness was found and verified by Dr. Richardson, who then immediately applied the clamp, when we found by our scale that when the flatness first appeared seventy to eighty cubic centimetres of fluid had been introduced. We then found that no vertical increase of flatness had taken place, and that the curved line bounding the area of flatness corresponded to that in Diagram III., the percussion flatness extending in the fifth interspace to about four centimetres from the edge of the sternum.

Next we will consider the large effusion, where the pericardium is pretty well filled from top to bottom.

May 10, 1878, with the assistance of Professor Bowditch, injected the pericardium of an infant about two weeks old, until percussion showed that the præcordial flatness had extended to the nipple on the right, and beyond the nipple to the left, in an area corresponding to the front of the thorax as high as the fourth ribs, when it approached the sternum to within about one and a half centimetres, and then passed upwards to the sternal notch.

The distended pericardium, with the lungs removed, is represented in Diagram II. by the area A and D.

Diagram V. represents the picture disclosed to our view on clamping the trachea and removing the sternum, in the case where the pericardium was spoken of as filled, and is drawn directly from the cadaver. The exact amount which must be injected before an increase of vertical flatness is obtained I have not yet determined. It may be objected that the fluid was introduced at the bottom of the pericardium, while naturally it should start at the base of the heart. In my earlier experiments I *did* introduce the fluid where the pericardium is reflected over the great vessels, but even when it was in very small amount and quite insufficient to cause any increase of percussion flatness, it immediately ran down the side of the heart to the bottom of the pericardium, so that I cannot conceive of its collecting to any appreciable amount at the base of the heart and being retained there. Even if it was retained there, it would not by its form represent an inverted triangle, as I have proved by inverting the cadaver and filling the upper part of the pericardium, when the resulting cast always had its broadest part directed towards the diaphragm. Nevertheless, as the convictions of some of the greatest clinical observers on this point are very decided, we must, in deference to their opinion, wait until more extended clinical facts are brought to bear on the subject before eliminating flatness at the base of the heart as diagnostic of the early stage of effusion in pericarditis.

As to the change of the position of the heart's apex spoken of by Flint and Reynolds, namely, that the apex is pushed upwards and outwards by a moderate effusion, so that the impulse appears in the fourth left intercostal space, I did not in my experiments find that this was the case, the apex being found by measurement to remain in its normal position; and, in fact, it seems highly improbable that a fluid, which according to Skoda always has a smaller specific gravity than the heart, should push that organ upward, a proceeding which would be quite contrary to the physical laws which govern the relation between a solid body and a liquid, when such body is suspended in the liquid and has a greater specific gravity than the liquid. By referring to Diagram III. — of the small effusion — it seems more plausible to account for the pulsation in the fourth interspace by the tumultuous action of the side of the heart, which, as is seen in Diagram III., can approach the thoracic wall at this point, especially as it has been observed by Professors Ludwig and Bowditch that the impulse of the heart, as seen normally in the fifth left intercostal space, need not necessarily be caused by the heart's apex, but by a portion of the heart above the apex striking against the thoracic wall.

The whole question, however, depends on the correctness of Skoda's observation, that the heart must always sink in a pericardial effusion as far as its attachments will allow, and this can be determined only by carefully taking the specific gravity of pericardial effusions of different densities and comparing them with the specific gravities of the fluids in which the suspended heart will float or sink. Skoda, however, is also incorrect in supposing that the small amount of fluid stands as high as possible in the pericardium, thus causing an increased vertical flatness; for in reality the lower part of the pericardium envelops the lower part of the heart so loosely that the small effusion has plenty of room to collect in the lower part of the pericardium first, making an increased distention in breadth, and, as we have seen, appearing in the fifth interspace.

Before proceeding to discuss the general conclusions which we are warranted in assuming in regard to the diagnosis of pericardial effusion, we must consider what changes in the præcordial area of flatness may be due to changes in the heart itself.

For this purpose it is not necessary for us to consider particularly whether the left or right side of the heart is hypertrophied or dilated; the question of interest to us, in this connection, is the result of all these conditions, that is, simply what possible part of the præcordia may be rendered flat on percussion by an enlarged heart; for I hold that we cannot as yet distinguish with sufficient certainty between the absence of resonance obtained on percussing over a fluid from that obtained on percussing over a solid organ, such as the heart or liver, to warrant us in giving an opinion as to which is fluid and which is solid, and that therefore it is of the utmost importance to determine where the heart, if enlarged, might cause flatness, for this area must be taken into consideration, and subtracted from the whole area of flatness, before we are justified in introducing a trocar expecting to find fluid.

In determining the possible area of percussion flatness caused by enlargement of the heart, I have consulted Bamberger, Oppolzer, Gerhardt, Shroetter, Paul and Felix Niemeyer, and finally Professor Adolf Weil, of Heidelberg, who has published some excellent plates on this subject. These authors all concur as to the extension of the flatness to the left of the left nipple, just as we have seen the effusion to extend. Oppolzer and Gerhardt speak of the possible increase of flatness upwards beyond the line of the fourth rib.

There is some difference of opinion as to the extension of the flatness to the right of the sternum. Shroetter contends that increase of flatness to the right of the sternum as diagnostic of enlarged heart is not nearly so frequent as is generally supposed, and gives as an instance of great increase in size two to five centimetres to the left of the left mammary line, and possibly two to four centimetres beyond the right edge of the sternum. Professor Ellis doubts if we ever find flatness beyond the right edge of the sternum, and says that it would be especially rare as low as the fifth interspace. Oppolzer says that the flatness may possibly reach one centimetre beyond the right edge of the sternum. The other authors either give the right edge of the sternum as the limit, or do not state definitely the part of the sternum where the flatness passes to the right. Weil holds that, even in extreme cases, the absolute dullness or flatness does not encroach on the fifth right intercostal space, while the relative dullness may extend over the right edge of the sternum for from two to three centimetres. The area of flatness of an enlarged heart, represented in Diagram VI., gives the combined views of these authors, even to an exaggerated degree, so as to avoid all error, and it will be seen that the area of flatness, represented by A, does not enter, to any appreciable degree, the fifth right intercostal space.

All these authors consider that the form of the area of flatness of an enlarged heart is determined by the retracted border of the lungs.

Oppolzer and Kunze find that, in enlargement of the whole heart, a truncated triangle form of flatness is sometimes found. Weil also, in his plates, makes the area of flatness of an enlarged heart have a triangular shape. According to these authors' own testimony, then, we cannot consider the triangular or truncated pyramid form of the præcordial area of flatness decidedly characteristic of effusion, for both the normal and enlarged heart may assume these shapes.

On precise experiment, also, we find that the form of the area of flatness merits the name of a semicircle in the small effusion rather than a triangle or pyramid, and that the latter terms certainly would be misleading if applied to the large effusion as represented in Diagram V. Why, then, retain these misleading terms, which only tend to confuse us in our endeavors properly to appreciate the subject?

As, however, the effusion as it varies in its amount will also vary in its form, it is wiser in making our diagnosis by percussion not to seek for any particular shape, but to find a part of the thorax where flatness on percussion will be significant of effusion. Now the flatness found to the left of the sternum, that found in the vertical line, and possibly that found to the right of the sternum above the fifth rib may occur, and yet no effusion be present; we therefore eliminate all that area of flatness marked in Diagram VI., area A, and find that we have left, in both the small and large effusion, an *area of flatness in the fifth right intercostal space*, as represented in Diagram III. In this interspace the flatness first appears as characteristic of effusion. It probably also appears, at the same time, to the left of the sternum, but the physiological flatness of the heart here obscures it. For diagnosis, then, *flatness, at from two to three centimetres from the right edge of the sternum in the fifth intercostal space*, would be almost absolutely sufficient to mark the presence of an effusion, unless the opinions of authorities on enlarged heart are proved to be incorrect; and I would here merely suggest, as it is a subject which I expect to treat of in a future paper, that puncture of the pericardium can safely be performed in the fifth right intercostal space, at from four and a half to five centimetres from the edge of the sternum, where the flatness, as is shown in Diagram III., extends even beyond the line E E′ E″, which represents, in Diagram VI., the relative dullness of the enlarged heart, according to Weil. At least it will be far safer, so far as the heart is concerned, to perform paracentesis at this point than where it has been heretofore advised and practiced by surgeons, namely, in the third, fourth, and fifth left interspaces; for, as is seen in Diagram III., we may, in the third and fourth spaces, have our flatness caused by the physiological flatness of the heart, and by referring to the casts of cocoa butter which I have preserved we find that the layer of fluid, even when present, is thinnest over that portion of the præcordia, and also in the part which corresponds to the fifth left interspace, while it is thickest at the sides.

There are a few points which it will be well to speak of here.

The lung seems to retract before the fluid, and it is the lowest part of the lung which first retracts, thus leaving a curved line of flatness with its convexity outwards.

The top of the area of flatness is almost on a line with the broadest diameter of a small effusion, as is seen by comparing Diagrams III. and IV.

Additional value is given to the diagnosis of an effusion by percussion from the facts that where an effusion is present the friction sound need not necessarily have ever occurred; that the apex beat in effusion may be felt to the left and below the nipple, as in enlarged heart, extending outwards as far as the line of flatness does, and *vice versâ*; that at times the apex beat of an enlarged heart may be very feeble, and even imperceptible ; also, that the rational signs of enlarged heart and pericardial effusion may be at times almost identical.

In conclusion, I shall describe as briefly as possible the extremely small number of clinical observations which I have been able to make during the past winter.

The first was a woman who died at the Channing Home. Flatness on percussion was found in the fifth right intercostal space to the distance of five centimetres from the edge of the sternum. There was no increase of vertical flatness. The autopsy showed the pericardium to be distended with about one hundred and twenty cubic centimetres of fluid.

The second case is especially interesting as showing the difficulty which may be met with in the differential diagnosis between enlarged heart and effusion without the aid of our *fifth right intercostal space.* This case, a boy six years of age, is best spoken of in connection with another, a girl eleven years of age, who was under observation at the same time, through the kindness of Dr. Davenport, of the Children's Hospital. In both patients the same rational signs were presented, such as orthopnœa, præcordial pain, etc. In both cases the attack followed acute articular rheumatism. In both cases the force of the heart's impulse was of about the same intensity, and appeared to be a little to the left and below the left nipple. The vertical flatness was not increased in either case ; the area of flatness to the left of the sternum was identical in both cases. In the boy, however, flatness was found in the fifth right intercostal space, while in the girl it did not extend beyond the left edge of the sternum. In the boy a loud undoubted pericardial friction sound developed at the base of the sternum ; in the girl a decided murmur developed at the apex of the heart. These last two symptoms are spoken of to show the strong probability of the correctness of the diagnosis that the boy was a case of pericarditis, and that the girl was a case of endocarditis with enlarged heart, though of course this could only be proved by autopsy, and the cases must merely be taken for what they are worth ; but, when we remember that the friction sound might have been absent, and that apparently endocardial murmurs may occur where no disease of the heart itself but merely a pericardial effusion is present, we again have to appeal to our *fifth right interspace* for diagnosis.

My third and last case was a patient seen at the City Hospital, whom, through the kindness of Dr. Doe, I was allowed to examine thoroughly. In this patient the area of percussion flatness, verified by Dr. Doe, exactly corresponded to that marked out in Diagram III., and I made my diagnosis simply by the flatness in the *fifth right interspace.* The case was especially interesting from the fact that it illustrated Gerhardt's observation of the change of the area of flatness in effusion on change of position of the patient. When the patient was in the position of orthopnœa we obtained the fifth interspace flatness; when she was horizontal this flatness disappeared, leaving the normal resonance of the lung.

As additional proof that this was a case of pericardial effusion, an undoubted pericardial friction sound, testified to by several of the physicians at the hospital, developed, and according to Professor Traube it is exceedingly rare to mistake this sound for a pleural friction sound.

A CASE OF LUMBAR COLOTOMY PERFORMED FOR THE RELIEF OF TEMPORARY OBSTRUCTION OF THE BOWELS, CAUSED BY PELVIC INFLAMMATION.[1]

REPORTED BY DRS. E. G. CUTLER AND JOHN HOMANS.

Mrs. H., thirty-two years of age, born in France, married, and the mother of five children, three of whom are dead, entered the medical ward of the Carney Hospital, in the service of Dr. E. G. Cutler, on March 20, 1878, with the following history: She had always been well till four months before her last confinement, when she had jaundice, which persisted till a short time after delivery. Two months before entrance she was confined naturally, and shortly after the birth of the child she had numerous not severe chills, and pain in the lower part of the abdomen, and later she had constipation, which was relieved by pills. The operations from the bowels gradually became more difficult, and at last the pills lost their effect, and recourse was had to enemata, which latter also failed after a time. For the past twenty-four days there has been no movement of the bowels. There has been no fever nor vomiting except within a day or two. She has suffered somewhat from pain in the lowest part of the abdomen, without tenderness; also from pain at the sides of the abdomen, apparently due to distention. Since her confinement the pain has been more or less constant, accompanied by a desire to go to stool. Four days ago she vomited several times without apparent cause, and passed much flatus by the mouth; the vomiting has recurred every day since at irregular intervals. Now the face wears an anxious expression, there is considerable distention of the abdomen which interferes somewhat with free respiration, and on percussion the belly is everywhere tympanitic. Nothing remarkable is to be felt on palpation. Pulse 130 in the minute, rather feeble; temperature 99° F.; respiration 30. Some tenderness in both iliac regions. Occasional vermicular contractions of the intestines are to be seen, and these give rise to pain. Her appetite is gone. Her tongue has a brownish-black coat, except at the edges and tip; the breath has an offensive fæcal odor; there has been vomiting three or four times in the past twenty-four hours, and a pretty constant nausea.

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[1] Read before the Boston Society for Medical Improvement, August 12, 1878.

Turpentine stupes were placed on the belly, and a solution of morphia and atropia was given by the mouth to control the vermicular contractions of the intestines. Milk, beef tea, brandy, and cracked ice, the latter *ad libitum*, were ordered. She took only two doses of morphia through the night, and said she slept well; the nurse, however, reported that she was very restless, and disturbed the other patients. With the assistance of Dr. Bradford two enemata, as large as could be borne without great discomfort and pain, were given (only about six fluid ounces could be injected) without effect.

On vaginal and rectal examination the uterus was found to be fixed by an indurated mass which filled the brim and upper part of the true pelvis entirely, and which descended rather lower on the left than on the right side. The sensation given to the examining finger was as if plaster of Paris had been poured into the pelvis from above, and had set, firmly fixing the uterus and compressing the rectum, so that it was impervious to the finger at the seat of compression. Diagnosis of pelvic inflammation, probably cellulitis, was made.

Dr. John Homans, the surgeon on duty, was called in consultation at four in the afternoon. The distention and discomfort were then greater, and there was mild delirium. The temperature was 101°; the pulse 130; and the respiration rapid. She had twice vomited offensive fæcal-smelling material. Under ether nine punctures were made with the aspirator needle, and some flatus was drawn off, with slight relief. The diagnosis was confirmed by the hand in the rectum, after Simon's method, and the finger was passed up as high as was considered advisable, but could not be forced through the stricture. At nine in the evening the temperature was 102.2°; the pulse 126, and weak; and the respiration 36.

March 22d. The patient slept but little last night. She vomited matter looking like fæces and having a strong odor of the same. The morning temperature was 101°; the pulse was 126. After consultation with Drs. J. Homans, Bradford, and G. B. Shattuck, left lumbar colotomy was decided upon, and the operation was performed by Dr. Homans. The patient was etherized, and placed on her right side, with a pillow beneath her loin. The positions of the anterior superior and posterior superior spinous processes of the ilium were then made out, the distance between them was measured, and an oblique incision five inches in length was made downwards from the last rib towards the anterior superior spinous process. The centre of this incision was a point half an inch nearer the posterior spinous process of the ilium than the anterior, according to Allingham's rule. The structures beneath were divided on a director, and care was taken to make the incisions in the subcutaneous tissues equal to that in the skin. Beneath the deep layer of fat the gut was easily found. Two sutures were passed through the intestine, which was partially rolled forwards. It was then opened by a longitudinal incision about an inch long. The centres of the sutures were drawn out and divided and each side of the divided intestine attached to the skin. After these had been secured four more stitches were introduced. A quantity of gas was immediately discharged from the opening in the bowel, and a moderate amount of semi-solid, yellow fæcal matter slowly followed. The edges of the skin were united by silk sutures, and a piece of oiled silk covered with a pad of oakum and a bandage was applied. At nine the same evening a profuse fæcal discharge took place from the wound, and the patient was left very comfortable.

March 23d. There was little sleep last night, owing to distention and uneasiness. Nothing has passed through the artificial opening since nine o'clock last night, and nothing by the rectum. Two doses of morphia were required. The morning temperature was 101.2° ; pulse 120. In the evening the temperature was 101° ; the pulse 114. The patient had slept more or less through the day, and now complained of sore mouth. On examination there was found to be a severe attack of stomatitis, involving the lips, gums, and cheeks; a wash of glycerine and borax was ordered.

March 24th. Slept well. Took one sixth grain of morphia during the night. More or less fæcal matter was passing by the wound, and a few minute pieces came from the rectum.

March 26th. The fæcal fistula was now thoroughly established, and the fæces passed regularly through it. The tympanites and all uncomfortable feelings had disappeared. The wound was dressed twice daily with oakum, and its edges were approximated as much as possible. The morning temperature was 98° ; the pulse 96. The evening temperature was 98.5° ; the pulse 116. There was pain on pressure over the lower part of the abdomen, and a hot poultice was ordered. During the next five days there were two operations daily from the fistula, and a few small fæcal masses, of a pale color, and covered with more or less mucus, were discharged from the rectum occasionally, when enemata were given. Quinine was given in five-grain doses ter die.

April 1st. The wound is perfectly healthy. The patient had a chill last night, followed by fever, and her temperature was 104.24°.

April 2d. A vaginal examination showed less hardness and resistance towards the right broad ligament, but towards the left there was still a hard mass, which extended into the pelvis. The uterus was not so firmly fixed as formerly. There was a slight amount of tenderness in the cul-de-sac towards the left ilium. No fluctuation was detected. Palpation from above disclosed tenderness over both inguinal regions, more marked over the left, with a sensation of deep fullness. The rectum contained a few small scybala. Hot-water vaginal douches were ordered. The patient was now sleeping well, and eating with a good appetite meat and solid food.

April 4th. Diffused redness (superficial erysipelas) has appeared over the right ilium. Temperature this morning was 102°. In the evening it was 103°. Quinine increased to six grains.

April 5th. The patient had a chill this evening, followed by fever and sweating. She was ordered ten grains of quinine three times a day, and half a drachm of syrup of the iodide of iron after meals.

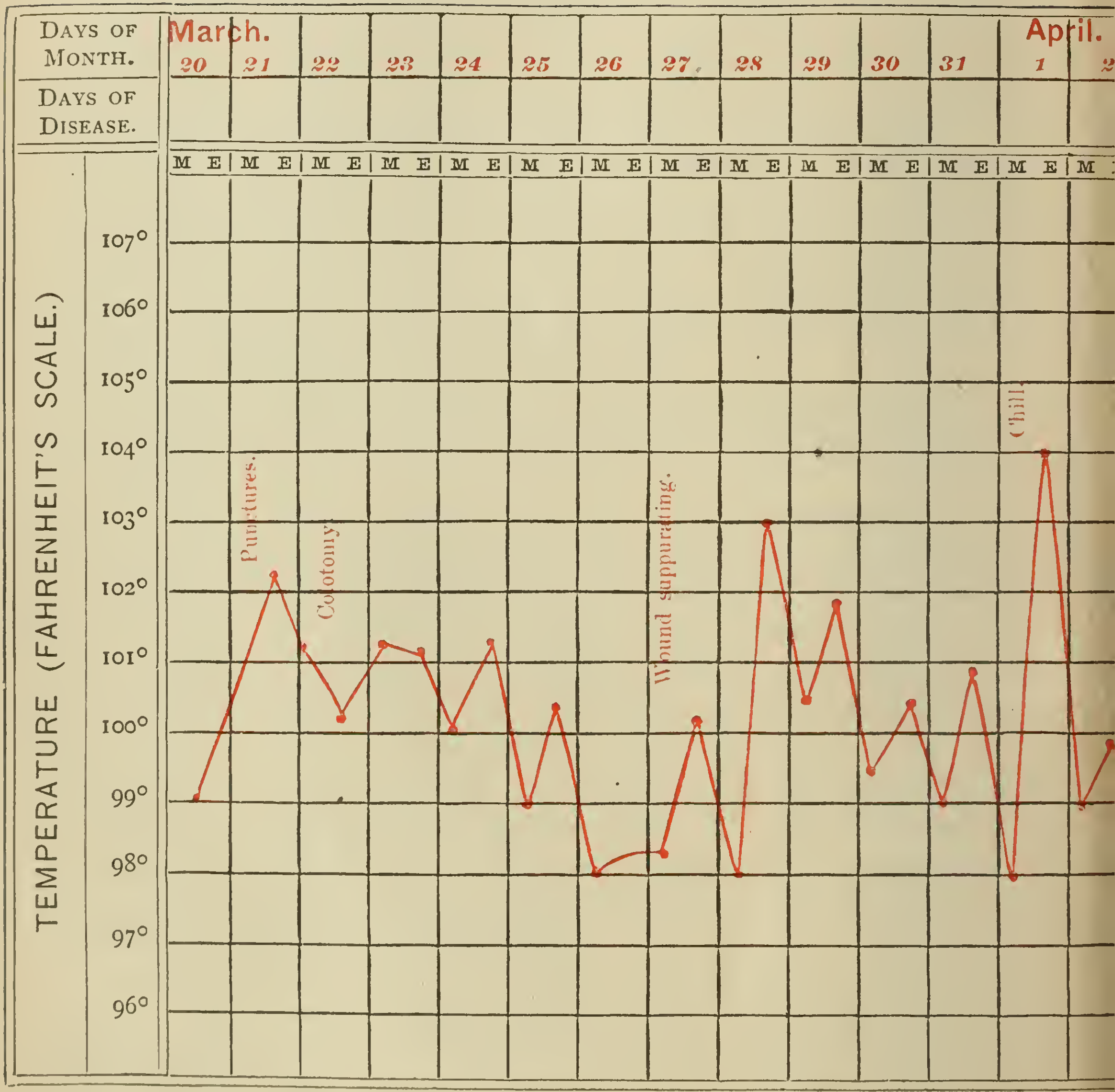
April 7th. The patient slept poorly last night, and is feeling rather weak this morning. On rectal and vaginal examination after etherization the hard mass on the left was found to have disappeared, though the uterus was still bound down by adhesions. Fluid forcibly injected into the rectum came out through the opening in the loin. Rectal douches were substituted for the vaginal ones.

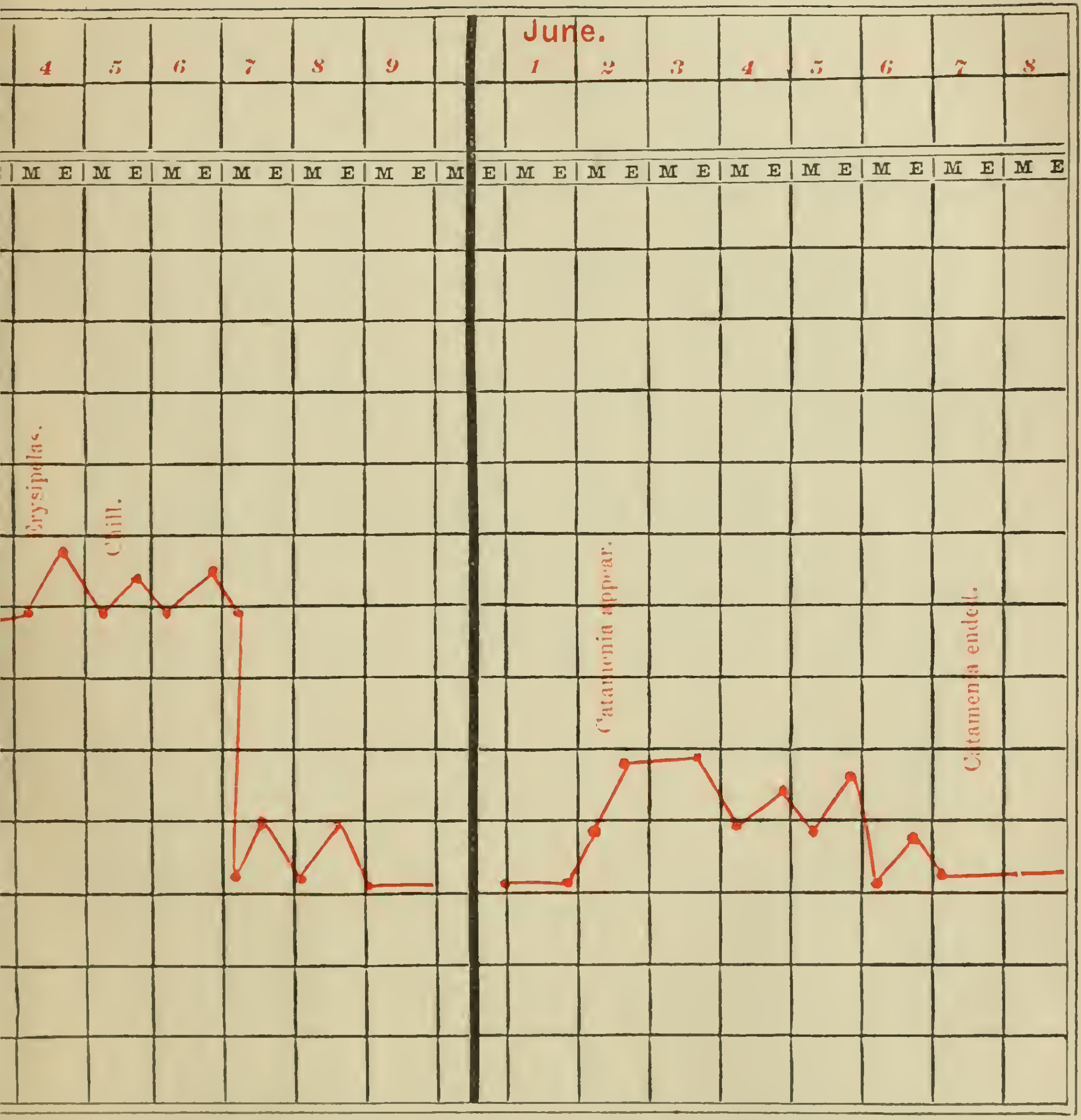
April 10th. Slept well last night. Tongue considerably coated. Continue quinine; omit the iron, and substitute sodæ sulphitis, thirty grains, after meals.

April 11th. Had a comfortable night. Is feeling very well, and sitting up in chair. Wound dressed twice a day, and looking healthy.

June 1st. During the last month and a half Mrs. H. has been up and about the ward, with a good appetite and excellent health. The rectal discharges have been increasing in amount, and once she has had a natural evacuation by the rectum without any fæcal discharge by the wound, which is now only about two inches long. There is a slight tendency of the bowel to prolapse, but this is easily controlled by keeping the edges of the wound in apposition. The morning fæcal discharge can generally be brought out by the rectum by giving an enema when the patient feels a motion beginning to pass by the wound. Menstruation has become reëstablished.

A natural desire to close the artificial opening led us to make the attempt. The skin was freely dissected up to its junction with the mucous membrane and was united by deep and superficial sutures of carbolized silk. The operation was done in an atmosphere of carbolic spray. The wound did not unite, and at the end of a week the opening in the bowel and skin was about the same as before. From this time till the date of her leaving the hospital, July 14th, the patient's condition was one of perfect health. Fæces were now passing freely by the rectum, and it only remained to attempt to close the fistula by a plastic operation, or to wait and see if the wound would not heal spontaneously. We decided to wait several months, and if at the end of that time contraction of the wound, which was now going on rapidly, had ceased to take place, to operate. In the mean time the patient was allowed to leave the hospital, promising to report frequently, and to return in the autumn.


DAYS OF MONTH.
March.
20
21
22
23
24
25
26
27
28
29
30
31
April.
1
DAYS OF DISEASE.
M E M E M E M E M E M E M E M E M E M E M E M E M E M
TEMPERATURE (FAHRENHEIT'S SCALE.)
107°
106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
96°
Punctures.
Colotomy
Wound suppurating.
Chill.


June.
4
5
6
7
8
9
1
2
3
4
5
6
7
8
M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E
rysipelas.
Chill.
Catamenia appear.
Catamenia ended.

RECENT PROGRESS IN URINARY SURGERY.

BY T. B. CURTIS, M. D.

Internal Urethrotomy. — This subject has received a good deal of attention of late, and several publications have appeared, setting forth the indications, methods, and advantages of the operation. In England internal urethrotomy had been but little resorted to by the generality of surgeons until within a few years, although long employed by Sir Henry Thompson, who says that throughout his experience he has found "nothing so efficient, so safe, and so certain." Notwithstanding this important indorsement of the operation, and all the recorded experience to be found in French and American publications, several English surgeons of note have recently given forth papers in which internal urethrotomy is treated of as a novelty, familiar details being enlarged upon, as if constituting recent discoveries. American and French surgeons will find little of interest in these contributions, except in the way of indorsement of already established facts, or of additional testimony concerning points still remaining unsettled.

The papers and articles alluded to would seem to show that the surgery of stricture is as yet but imperfectly understood in England. This impression is based, in the first place, upon the extensive employment of external perineal urethrotomy, — at Leeds [1] the operation was performed thirty-nine times in three years, with seven deaths, — and, in the second place, upon the fact that the attention of English surgeons seems to be wholly concentrated upon the treatment of tight or "confirmed" stricture, in which contraction has advanced so far as to reveal itself to the patient himself by an unmistakable obstruction to micturition. The initial stage of stricture, in which a persistent gleet may for years be the only symptom attending the slow and gradual formation of a retrograde contraction, without any appreciable obstruction to the passage of urine, — in which stage there is good reason to believe that the disease is not radically incurable, — this stage of stricture seems still to be ignored as such by most English surgeons. Even Sir Henry Thompson himself looks upon smallness of the stream as the first and chief symptom of stricture, and asserts in the most unequivocal manner that when a catheter of calibre 10 or 11 (English) can be passed easily through the urethra no stricture can exist, and no further use of instruments can be needed.[2] Mr. Lund, speaking of the period at which urethral contractions become appreciable, says that "a man who contracts gonorrhœa at twenty draws a bill upon his constitution payable at forty; in other words, it is not for nearly twenty years after recovery from his inflamed urethra that he is made conscious of the slow contraction of cicatrices which year by year have narrowed the passage to a permanent degree, and rendered his urethra almost impassable to ordinary instruments." It appears to be the custom of English surgeons to postpone the surgical treatment of stricture until the "confirmed" stage is reached, in which a more or less serious impediment to micturition is complained of by the patient. Such a course — involving neglect of the disease during the long early stage of gradual contraction, in which the primitive normal calibre of the passage is slowly being encroached upon, without any appreciable or manifest obstacle to the passage of the urine — strikes an American surgeon as no less irrational than it would be to postpone the detection and treatment of stone in the bladder until the nature of the case had been recognized by the patient himself, until cystitis had arisen, or until the stone had attained a diameter exceeding, say, an inch.

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[1] E. Atkinson, British Medical Journal, March 16, 1878, page 361.

[2] Diseases of the Urinary Organs, London, 1876, page 42.

Mr. Arthur E. Durham,[1] writing on internal urethrotomy by aid of a new urethrotome, thinks that the various instruments in use are "either wanting in precision and accuracy of application, or else that they serve *to cut a fresh way by the stricture into the urethra beyond rather than effectually to operate upon the strictured part itself.*" To avoid the extensive false passages which seem to him of such common occurrence, his instrument comprises a slender, curved, steel guide, *hollow*, "with openings like those of a catheter for the indicative escape of urine." The necessity of a tube allowing the "indicative escape of urine," by which the surgeon may be made sure that his instrument has really reached the bladder, is insisted upon by several of the recent English authors. Mr. Teevan, advocating similar caution, says, "When the instrument is apparently in the bladder, I withdraw the stylet to verify its position. If urine flow, I operate; if it do not, I withdraw the urethrotome, and try again another day."

From what precedes, then, it would seem to be not unusual in England for surgeons to ensheathe a metallic instrument to a depth of eight or ten inches in a patient's body without remaining within the urethra or reaching the bladder at all. This calamity is spoken of by Mr. Durham as a frequent occurrence, and Mr. Teevan thinks that whenever it happens the operation would better be postponed! This mode of recognizing the whereabouts of a catheter by the escape of urine is open to the very grave objection that the needed information comes *after the damage* has been done. A much simpler and safer, and every way better plan is never to attempt the introduction of a slender metallic instrument through a narrow urethra unless threaded on a fine whalebone guide, or better still preceded by a flexible capillary conductor screwed on. The penetration of the latter into the bladder can, if necessary, be verified by Guyon's expedient, as follows: Before introducing the Maisonneuve urethrotome, he screws a very slender, long, straight wire on the capillary bougie, and by means of this wire pushes the bougie to a depth of six or eight inches into the passage. If no difficulty is found in doing this, it is evident that the bougie has gone into the bladder, and is there coiled up. After completion of the cutting, Guyon removes his urethrotome without wholly withdrawing the capillary bougie, unscrews it, and substitutes the long wire, which then serves as a conductor for an elastic catheter open at both ends. This he ties in for a day or two.

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[1] British Medical Journal, March 16, 1878, page 358.

Mr. Durham's instrument comprises, in addition to the slender, hollow guide, a bulb with four slits, from which as many narrow blades can be made to issue, making four incisions of slight depth. This procedure of multiple scarification Mr. Durham thinks preferable to urethrotomy proper. After the use of his instrument a "large-sized catheter, No. 10 or 12, could be introduced, and was fixed in for several days. The results obtained in the two cases cited were that in one a No. 10 catheter could be passed seven months after the operation, while in the other case the patient, three months after operation, continued to use the catheter (10) at least once daily. Such being the operation and its results, we can hardly wonder that Mr. Durham's conclusion should be that "internal urethrotomy must be regarded as an exceptional operation, to be practiced in exceptional cases."

Mr. Teevan[1] is much more conversant than most English surgeons with the recent improvements in the treatment of stricture, as well as with the foreign literature of the subject. He is strongly in favor of internal urethrotomy, which operation, however, he does not think capable of producing a radical cure. He says that "pathologically there is no evidence to prove that a stricture can be cured, but practically all strictures are curable, provided an instrument is occasionally passed at regular intervals." Mr. Teevan's instrument is a modified Maisonneuve urethrotome, in which the knife is guarded by a double sheath, sliding in telescopic fashion outside the grooved staff in which the knife travels. In this modification Teevan was anticipated by Voillemier. Teevan's staff is tunneled, and is introduced by threading it along a conducting bougie. The groove in which the blade travels stops at two inches from the vesical end, to avoid cutting beyond the Membranous portion of the urethra. The cut is made on the roof of the canal. After the operation a silver catheter, No. 25, is introduced to test the calibre of the passage, and to empty the bladder. No catheter is tied in, the patient being allowed to urinate naturally. Four days after the operation a bougie is introduced; this is repeated twice weekly for about ten days, and after that once weekly.

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[1] British Medical Journal, March 16, 1878, page 361.

Mr. Lund[1] publishes a little book on Internal Urethrotomy with its Modern Improvements. Having previously, he says, fully discussed the merits of internal urethrotomy, he "now describes those details of the operation which will render it applicable to every variety of finely-contracted urethra." His book is, however, open to the objection, already urged against English urethral surgery in general, that it admits as strictures, requiring surgical treatment, only the tight filiform contractions of many years' standing. For cases of this description, which would be the rare exception instead of the rule if surgeons would but recognize the earlier stages of the disease, and, by suitable surgical procedures, forestall the tendency to gradual slow contraction, Mr. Lund's procedures seem exceedingly well devised. He, too, is apt to be uncertain whether or not his instrument is in the bladder unless he can see urine flowing through a fine tube, which, he says, clears up all doubt. The instrument which he prefers is Teevan's modification of the Maisonneuve urethrotome. He, however, passes the cutting part of the instrument fairly on into the bladder, which seems unnecessary, — since stricture never exists so far back as the membranous portion of the canal, — and may be harmful by occasioning, as Mr. Lund acknowledges, troublesome venous hæmorrhage, requiring to be controlled by cold applied to the perinæum, or by placing ice in the rectum.

Mr. Lund, in common with the greater number of authors on urethral surgery, relies on quinine to prevent shock, urethral fever, etc. The utility of quinine for this purpose seems to be assumed rather than demonstrated. Malherbe[2] found by careful observation in Guyon's wards at the Necker Hospital that both the prophylactic and the curative virtues of quinine in urethral fever were quite insignificant. He says that "sulphate of quinine causes a slight diminution of temperature when given in very large, or, more properly, excessive doses, but that it does not occasion any permanent defervescence, nor does it prevent the occurrence of fever."

Dr. Otis's views are pretty well known to our readers. He has recently published a volume[3] in which his opinions and the results of his extensive practice are elaborately set forth, and in which the objections brought forward by his opponents are fully considered. Space does not at present allow us to do more than allude to this most valuable contribution to urethral surgery, which appears likely, in our opinion, to bring about a real and great improvement in the treatment of stricture. We believe that Dr. Otis's methods of diagnosis and treatment, involving the detection and relief of stricture in its earliest stages of formation, if generally adopted, would render unnecessary all the procedures and instruments hitherto extolled for the treatment of "confirmed stricture."

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[1] Internal Urethrotomy with its Modern Improvements, London, 1877.

[2] De la Fièvre dans les Maladies des Voies urinaires, Paris, 1872.

[3] Stricture of the Urethra: Its Radical Cure. By F. N. Otis. New York. 1878.

ANNUAL MEETING OF THE AMERICAN GYNÆCOLOGICAL SOCIETY.

The third annual meeting of the American Gynæcological Society was held at the hall of the College of Physicians, Philadelphia, September 25th, 26th, and 27th, the sessions lasting each day from ten to one and from three to five o'clock. The following members were present: Fordyce Barker, T. A. Emmett, T. G. Thomas, E. Noeggerath, P. F. Mundé, of New York; J. Byrne, H. J. Garrigues, of Brooklyn; J. D. Trask, of Astoria, L. I.; D. H. Storer, G. H. Lyman, A. D. Sinclair, J. R. Chadwick, W. L. Richardson, of Boston; Gilman Kimball, of Lowell; W. Goodell, R. A. F. Penrose, A. H. Smith, T. M. Drysdale, E. Wilson, of Philadelphia; S. C. Busey, J. T. Johnson, of Washington; H. P. C. Wilson, of Baltimore; J. P. White, of Buffalo; W. H. Byford, of Chicago; J. C. Reeve, of Dayton, Ohio; H. F. Campbell, of Augusta, Ga.; and G. J. Engelmann, of St. Louis.

A number of medical gentlemen present were made guests of the society, and Dr. Barker, the ex-president, and Dr. J. L. Atlee, of Lancaster, Pa., an honorary member, were requested to take seats upon the platform.

Wednesday, morning session. The senior vice-president, Dr. William Goodell, called the society to order, and introduced Dr. A. H. Smith, who gave the address of welcome in behalf of the Philadelphia members.

Dr. J. C. Reeve read an account of a case of rupture of the perinæum without any implication of the vulva. The patient was a multipara, confined under the care of a midwife. Both anal sphincters were ruptured, and the child was delivered through the anus. In the discussion which followed, Dr. Campbell dwelt on the importance of an immediate operation in cases of rupture, since the lochia and other discharges do not seem in any way to interfere with the healing; while it often happens that operations performed later, the edges of the laceration being refreshed, fail. Dr. White thought that greater stress should be placed on the necessity of preventing these lacerations. He strongly recommended the making of lateral incisions. In this way the perinæum may be preserved intact, and such incisions very rapidly heal, the edges being brought together by the natural contraction of the parts.

A paper by Dr. Marion Sims on the Surgical Treatment of Dysmenorrhœa was then read by the secretary. The object of the paper was to establish the author's claim to having first suggested the antero-posterior incisions of the cervix in cases of stenosis, and the great value which he attached to this operation.

Dr. Barker thought it at least remarkable that one gynæcologist should have performed this operation a thousand times, while others, having equal opportunities for operating, should so rarely see cases which seemed to call for such treatment. He was convinced that the operation was often performed unnecessarily and injudiciously. He was cognizant of sixteen deaths which had followed this method of treatment, even where the operation had been performed by skillful surgeons. There were many cases of stenosis where some treatment seemed necessary to relieve either a dysmenorrhœa or sterility. He questioned, however, whether successful results were so often obtained as were reported. He had himself seen over a hundred cases in which an incision had been previously made by operations, but no relief had followed.

Dr. E. Wilson was opposed to this method of treatment, and believed that better results were obtained from a dilatation of the cervix.

Dr. Noeggerath said he could never forget Dr. Peaslee's two objections to this operation. In the first place, in cases of anteflexion of the second degree the canal can be straightened only by an incision running so high up as to open the peritoneal cavity. In the second place, by such a procedure the parenchymatous structure of the uterus is so injured that there is great danger of septicæmia. There may be cases in which a slight incision, not deeper than one fifth of an inch at the inner os and one fourth of an inch at the outer, may be justifiable. He believed, however, that the vast majority of cases reported as cured were in reality only relieved for two or three months. Before cases are reported as successful they must be under observation a long time.

Dr. H. P. C. Wilson had no doubt that the operation was too frequently performed, but still there were many cases where it was the proper thing to do. He had seen the most serious results follow the introduction of a sponge tent for the purpose of dilatation.

Dr. Lyman believed strongly in dilatation, and was opposed to the treatment recommended by the author of the paper.

Dr. Emmett said that careful observation had taught him that where the flexion was above the vaginal junction a proper examination of the case would discover trouble elsewhere, and that the uterine difficulty was merely the exponent of some abnormal condition lying outside the uterus itself. It was due to an obstruction of the circulation. A rectal examination will detect a thickening of the broad ligament on one or both sides, the result of a previous cellulitis. The fault, therefore, does not lie in the uterus in the beginning, nor will any such operation effect a cure. He believed firmly that mechanical dysmenorrhœa was a myth. In all these cases where such an operation is contemplated, he urged strongly the searching for the results of a previous cellulitis. Were this done the operation would soon come to be a thing of the past.

Dr. J. P. White reported a case of extra-uterine pregnancy in which the fœtal bones had been discharged through the bladder. Drs. Atlee and Storer reported other cases of extra-uterine pregnancy. The general sentiment was in favor of abstaining from an operation as long as possible, and when surgical interference was demanded then to remove the fœtus, leaving the placenta behind to take care of itself.

Afternoon session. Dr. J. T. Johnson reported a very rare case, in which he was called upon to deal with a combined foot and head presentation, and in which there occurred a fracture of the spine in utero.

Dr. Engelmann gave the details of a case in which a child was born with a great many of the bones broken, some of them presenting evidences of having been broken but reunited.

Dr. Noeggerath had seen one case in which there had occurred in utero a fracture of a humerus and also of a femur. Before the child was five years of age thirty-two spontaneous fractures of different bones had taken place.

Dr. Campbell had seen two children, in each of whom a fractured rib had been discovered soon after birth.

Dr. Emmett read a most carefully prepared table, giving an analysis of one hundred and sixty-one cases in which he had operated for vesico-vaginal fistula, with an account of the character of the preceding methods of delivery in each case. He stated that he had never seen a case of vesico-vaginal fistula which had been caused by the use of instruments. In the great majority of cases a neglect to empty the bladder is found to be the exciting cause. He would impress on the minds of the members of the society the necessity in all cases of introducing the catheter, no matter what the patient's statement as to the supposed condition of the bladder may be. The fistulæ in most of these cases had been caused by prolonged pressure.

Dr. Smith thought that the accident was not due to the amount or violence of the pressure, but to the duration of it.

Dr. Storer did not believe in the too frequent use of the forceps. If the head ceases to recede, or, in other words, it becomes impacted, then of course they must be used.

Dr. Barker observed that an over-distended bladder was *per se* a cause of retarded labor. The accessory muscles were not brought into action, owing to the pain occasioned by the distention. In cases where the parts are subjected to prolonged pressure we incur the danger of peritonitis, cystitis, and other inflammatory diseases. A prolonged first stage of labor, owing to the depression and exhaustion it produces, is a powerful factor in causing a prolonged second stage. In such cases the administration of an opiate to produce sleep, or of quinine in full doses to excite the uterus, was the proper method of treatment.

Dr. Wilson (Baltimore) believed that the use of the forceps should not be considered as an operation, but should be frequently employed with a view to shortening the labor.

Dr. Barker added that the forceps were demanded not only when the head ceases to recede, but when it ceases to advance.

Dr. Atlee thought that forceps should be used for the purposes of relieving pain and cutting the labor short.

In answer to a question of Dr. Smith, Dr. Emmett said that even where the head was pressed firmly against the pelvic brim it could be pushed back often by means of the forceps, and thus the catheter could be introduced. If this could not be effected, he believed in tapping the bladder with the aspirator through the abdominal wall, rather than running the risk of trying to extract a head, the bladder being distended.

Dr. Reeve had thus emptied the bladder with the aspirator in one case, with no unfavorable symptom.

Dr. Goodell thought that the tendency of the discussion was to make too light of the operation of forceps. He was of opinion that their proper use required a certain amount, at least, of practice and skill. He considered that many perineal lacerations were due to the improper use of forceps by inexperienced operators. He advocated the removal of the forceps as soon as the head came to the perinæum, unless there were symptoms demanding an immediate delivery.

Thursday, morning session. Dr. Wilson (Baltimore) gave the details of a case in which he had succeeded in stopping a severe post-partum hæmorrhage by scraping the placental surface of the lining membrane of the uterus with his finger-nails, using the hand as a curette, as it were.

Dr. Penrose gave a summary of the methods proposed for treating post-partum hæmorrhage. He closed his paper by strongly urging the use of common vinegar, a means which he had for years employed, and which had never failed at once to arrest the flow of blood.

A general discussion on the proper treatment of post-partum hæmorrhage followed the reading of the two papers.

Dr. White had never used vinegar as thus recommended, but had many times used it as a local styptic in uterine surgery with remarkable success.

Dr. Thomas considered that all cases of post-partum hæmorrhage were due either to uterine inertia, to some influence which prevents a uterus from contracting, although the uterus itself is not at fault, or to some solution of continuity. He believed that nine out of ten cases were due to some mismanagement on the part of the attending physician, who does not properly see to it that a firm uterine contraction takes place after delivery. A small clot, for example, forms, and this gradually increases; the uterine fibres around it become relaxed, and then follows the hæmorrhage. He thought that the third stage should not be considered as the expulsion of the placenta only, but it should be the complete tonic contraction of the uterus, the expulsion of the placenta being merely an epiphenomenon of this stage. The ferric salts were too dangerous ever to be used except as a last resort. What we want is a stimulating application to the interior of the uterus. He did not believe that vinegar was a specific, but that alcohol or hot water would do just as well as anything else.

Dr. Atlee strongly favored the immediate introduction of the hand within the uterus.

Dr. Smith dwelt on the necessity of freeing the uterine cavity from clots, and after that he would advise the injection of hot (110° F.) carbolized water.

Dr. Campbell thought it of the utmost importance in all severe cases to raise the foot of the bed, that the brain might be stimulated by the return of blood to the head.

Dr. Engelmann spoke in defense of the use of ferric salts. The danger was that they were not properly used. The uterine cavity should first be cleared completely of clots, and the iron should be applied through a speculum.

Dr. Trask in reply said he did not believe that the iron was of advantage as a styptic, but as an irritant, and as such there were other and safer means at our disposal.

Dr. Chadwick alluded favorably to the subcutaneous injection of ether, which had proved successful in three cases under his care.

Dr. Barker laid especial stress upon the hæmorrhagic diathesis as one of the predisposing causes of post-partum hæmorrhage. It was often found associated with excessive anæmia, and as such required to be treated from a prophylactic stand-point with the appropriate remedies. If the hand is introduced within the uterine cavity, it should be kept there until expelled by uterine contractions. He had, however, in four cases seen a laceration of the os produced by the introduction of the hand within the uterine cavity. This operation was therefore to be avoided if possible.

Dr. Wm. Goodell then delivered the annual address. After paying a graceful tribute to the memory of Drs. Peaslee and Atlee, who had died during the past year, taking a brief review of the work of the last meeting, and making some useful hints as to the future, he passed at once to the consideration of the relation which neurasthenia bears to the diseases of the womb. The address was a firm and scholarly protest against the tendency to meddlesome gynæcology, — the treatment of local uterine effects instead of the great causes which were producing the effects. The essence of many of these diseases lies in the nerve centres, and not in the sexual organs. He warmly advocated the methods of treatment described and followed with such happy results by Dr. Mitchell.

Afternoon session. Dr. Byford read a paper on Dermoid Tumors of the Ovaries. Some later theories as regards their development were subsequently explained by Dr. Noeggerath.

The next paper was by Dr. Richardson, who spoke on the Treatment of the Acute Parenchymatous Nephritis of Pregnancy, with a special reference to the question of the proper time for the induction of premature labor. He believed that while the quality of the urine gives the signal-note of danger, the quantity of urine daily secreted by the patient should be our guide as to the extent of danger. Many cases of nephritis terminate in eclampsia, while others, oftentimes apparently more severe as judged by the symptoms, do not. The key to the problem he thought was to be found in the fact that in the former class of cases the daily quantity of urine grows less and less, while in the latter, although it becomes diminished, it does not at all reach the small amount obtained in the first class of cases. Wherever, then, we have to deal with the acute nephritis of pregnancy, the writer advocated the keeping of a daily record of the quantity of the urine secreted. If this falls below a certain point, despite all efforts to prevent it, then labor should be induced; otherwise it should not, no matter how grave the accompanying symptoms may be.

Drs. Thomas, Barker, and Lyman agreed with the writer, and thought the suggestion an eminently practical one for future investigations.

FRIDAY. The morning session began at nine o'clock with closed doors. The following elections took place: —

President, T. G. Thomas, of New York; vice-presidents, D. H. Storer, of Boston, H. P. C. Wilson, of Baltimore; council, T. A. Emmett, of New York, A. H. Smith, of Philadelphia, John Byrne, of Brooklyn, G. J. Engelmann, of

St. Louis; secretary, J. R. Chadwick, of Boston; treasurer, P. F. Mundé, of New York; honorary Fellows, J. S. Billings, U. S. A., Washington, D. C., J. Matthews Duncan, London; active Fellow, Nathan Bozeman, of New York.

It was voted that the next meeting be at Baltimore, the third Wednesday of September, 1878.

Dr. S. C. Busey read an account of a case of Alternating Anterior and Posterior Version of the Uterus.

Dr. Garrigues contributed a valuable historical account of the operation of gastro-elytrotomy, with a critical examination of the merits of the operation.

In the discussion which ensued Dr. Thomas stated that thus far no hæmorrhage had followed the operation. Should it do so, it could easily be controlled by a carbolized tampon in the vagina, and a second in the iliac fossa, the latter being held in position by a firm bandage of sticking plaster. During the last two hundred and fifty years New York had seen only one successful case of Cæsarean section, while in the last eight years there had been five successful cases of gastro-elytrotomy. There was no danger of creating a urinary fistula; the worst that could happen was a rent in the bladder, and such rents always readily healed.

Dr. Byford favored the operation as being much safer than gastro-hysterotomy.

Dr. Bozeman considered the operation a very dangerous one, owing to the fact that the ureter must necessarily be injured, and a ureto-vaginal fistula was a very serious affair, there being only one case on record of such a fistula being healed.

Both Dr. Thomas and Dr. Garrigues replied that the danger of injury to the ureter was an imaginary one, the latter having demonstrated on the cadaver that the incision and tear are made below and parallel to the normal position of the ureter.

Dr. Smith read an elaborate paper in which he entirely opposed the use of the forceps as a lever, and endeavored to show, by a mathematical demonstration, that the pendulum-like use of the forceps was unsafe, and contrary to the true principles of mechanics.

Afternoon session. Dr. Barker believed that in many cases, while both blades of the forceps should advance at the same time, they should move at different rates. In this way the amount of irritation, fric ion, and compression is relieved, for you thus allow intervals of rest, now on one side and now on the other of the vaginal track. In no case should one end of the head be thrown back while the other is brought forward, for in that way injury would be done.

Dr. White favored the pendulum use of the forceps under certain restrictions.

Dr. Storer and Dr. Penrose also took exception to the views of the reader.

Dr. Thomas believed that the forceps should be used as tractors when they could, but as levers when they must. If the delivery is to be made after a long labor, when there is œdema from pressure on the venous system, then the lever action must be used, for only in this way can the œdema be gradually overcome. It was the same principle as we should apply in drawing a ring from a finger which was in a normal condition, and again when the finger was swollen. He believed that in all cases in which the pendulum movement was used, it must be as an adjunct only of a simultaneous traction.

Dr. Goodell thought that in gross the ideas of Dr. Smith were correct, but in detail they were wrong. The error was in not remembering that the head was compressible. The leverage must be be made always slowly, carefully, and within a limited space.

Dr. Campbell read a paper on Rectal Alimentation in the Nausea and Inanition of Pregnancy.

Dr. Goodell then delivered the farewell address, and after votes of thanks to the secretary and the retiring president the society adjourned, to meet in Baltimore.

OUR MARINE HOSPITAL SERVICE.

We have already taken occasion to comment upon the satisfactory administration of this branch of the public service under the direction of its present able head, the supervising Surgeon-General, Dr. John M. Woodworth. The manner in which this department has been conducted is a favorable illustration of the excellent character of the work done at Washington by our medical officers. A reference to the present annual report, which has just appeared, shows that for the last five years no deficiency appropriation has been asked of Congress, while in the twenty successive sessions the annual appropriation reached nearly two hundred thousand dollars. The average cost per patient has been lower the present year than ever before, and this result has been reached by a more careful selection of cases for hospital treatment, and the disposal of the lighter cases by an out-patient system. Incurable patients are furnished transportation to home and friends, and a great deal of money has been saved in this way, the comfort of the patients being correspondingly enhanced. Care has been taken also to suppress the presentation of fraudulent certificates by persons not entitled to the benefits of the service, and by those feigning disease and wandering from hospital to hospital. A great deal of stress is laid upon the propriety of instituting a physical examination of all sailors entering our marine service. The navy, the marine corps. and the life-saving service recognize the absolute necessity of such examination, and enforce it accordingly. In the appendix to the report is a paper on this subject by Surgeon Bailhache, of Baltimore, who presents a striking picture of the wretched material from which ships' crews are made up. This evil also exists in England as well as in this country, and a variety of testimony is cited to show that very few English or American ships ever sail from port with sound and healthy crews. The result is that there are always a large number of chronic frequenters of hospitals, and conditions favorable for the spread of contagious diseases abound. The protection offered to the seaman, passenger, owner, vessel, and cargo would be great, and the regulation would be advantageous, not only from a sanitary, but from a simple business point of view.

It is a curious fact that although there are a number of marine hospitals at our different ports, no hospital has ever been built for this purpose either at New York, Philadelphia, or Baltimore, and at New Orleans a building was begun twenty years ago, but has never been finished. The obstacle in New York has been the difficulty in finding a suitable site for a building. A site on Bedloe's Island, the island selected for the colossal statue of Liberty enlightening the World, has been found adapted for the purpose, and it is to be hoped that Congress will permit the department to occupy it.

The articles on yellow fever in the appendix will be read with unusual interest. They give a graphic account of the epidemic in Savannah in 1876, and at Fernandina last year. In the former city the fever had not abated until the middle of October. A description of the sanitary condition of the city, the arrangements of its privies, etc., are somewhat startling to those accustomed to modern notions of sanitary science, and yet this state of things must have existed for many years. The peculiar mode of spreading of the disease and its characteristics are well described by Assistant Surgeon Smith.

With such a service as this at the disposal of our government, it would seem that all the necessary machinery existed for a thorough investigation of this little understood disease. The manner in which Dr. Woodworth has organized his department, and his capacity for developing new fields of usefulness for it, as shown in the weekly health reports lately inaugurated, indicate that he is eminently fitted for the task. We are glad to hear that he is already in communication with the American Public Health Association, and that a committee has been organized, consisting of Dr. Bemis, of New Orleans, Dr. Cochran, of Mobile, and one other, and an appeal for aid has been made to the boards of trade of the principal Northern cities; and we trust that the country will no longer rest under the reproach of having accomplished nothing towards protecting its inhabitants from the inroads of so bold an intruder.

MEDICAL NOTES.

—Dr. Charteris, of Glasgow, recently said, "The benefits of warm climates and of well-known resorts for phthisis consist simply in the fact that out-of-door exercise can be taken with greater impunity, and with less chance of lowering the vitality." "This is the gist of the whole matter of climate," says the Richmond *Medical Journal.*

— Prof. v. Arlt, of Vienna, recently received the gift of a splendid album containing two hundred photographs of oculists, most of whom had been his pupils. — Carl Sachs, the talented assistant in the Physiological Institute in Berlin, is dead. — Prof. v. Voit has been made rector of the University of Munich. — Professor Lebert, of Breslau, a distinguished writer, is dead. — Dr. Forster has been made professor of hygiene in Munich. The chair was formerly held by Professor Hoffmann, now of Leipzig. — Professor Spiegelberg has been appointed rector of the Breslau University, and Professor Kacher rector at Bonn.

— In the vomiting of pregnancy pure carbolic acid when applied to the cervix uteri is just as efficacious as stronger caustics, and is better for the organ in question.

— According to the London *Lancet*, September 7, 1878, page 342, M. Maurice Raynaud, in a recent communication to the Académie de Médecine, "found that the development of the vaccine vesicle is not essential to the production of immunity, since it was equally obtained when, after subepidermic inoculation, the development of the vesicle was artificially prevented," — a confirmation of the experiments related in the JOURNAL of April 25, 1872.

— "In the opinion of Kunze," says the *Medical Press and Circular*, "we possess in curare a remedy by means of which we may cure cases of epilepsy of long standing. He employs a solution of seven grains of the drug in seventy-five minims of water, to which he adds two drops of hydrochloric acid. At intervals of about one week he injects hypodermically eight drops of this solution, and in cases in which convulsions had occurred for several years he obtained a complete cure after eight or ten injections."

CHICAGO.

— The resolution of the Chicago Medical Society, passed at a meeting some weeks ago, calling on a number of prominent physicians, whose names had been used in an advertisement for spectacles by a vender, for an explanation of the alleged offense, brought forth a number of replies quite various in tone. Some of the gentlemen declare the action of the society unwarranted. The society had before it at a subsequent meeting a resolution to refer the matter to the state and national associations. After an animated debate this was indefinitely postponed by the casting vote of the chairman. The offensive advertisement has been withdrawn from the daily papers.

— The West Chicago Medical Society passed a resolution at a recent meeting, expressing sorrow that for the first time in the history of the institution, at the last election for internes at the Cook County Hospital, — which election purports to be based on merit as determined by competitive examination, — other considerations than those of merit were allowed to influence the choice; expressing also the belief that such positions should always be open to free competition by competitive examination as rewards for merit, etc., etc. A copy of this was sent to the medical board of the hospital, which passed a vote denying the allegation contained in the resolution of the society, and asking the society to send a committee to their next meeting to present specifications and charges. This invitation was brought to the society and presented at its meeting of September 9th, but an adjournment was voted without taking any action in the matter. Several members of the society express surprise at the vote of the medical board, supposing it a matter of street notoriety that the election had occurred as the resolution of the society intimated, and that nobody would deny it. It seems the deviation from the usual course, if it occurred at all, was in the interest of dividing the appointments of internes among the graduates of different colleges.

— The sale of kumys in Chicago — for several years quite an industry — during the present summer season has been very large. It has been used extensively by the sick, and often prescribed by practitioners as a beverage or a medicine, often procured by the patients for its pleasantness as a liquid food and drink. But it is not unlikely the major part of that sold has been used by the well as a summer drink. The article has been sold by the glass by the manufacturers, — generally druggists, — and nearly every drug store has had displayed in its windows a placard, "Kumys on draught." Several manufacturers employ delivery wagons to supply regularly such druggists as do not themselves manufacture, as well as families. With a class, kumys drinking is quite fashionable; it has taken the place of liquor drinking. It is now the correct thing to do on a hot day to ask a friend to step in and take a glass of kumys. Many attempts have been made by families and others to make kumys domestically, but so far the only really fine samples have come from the hands of the expert manufacturers who make a business of it. It would be used more extensively if its cost were less. Thirty and forty cents a quart puts it out of the reach of the masses for a regular diet.

LETTER FROM NEW ORLEANS: YELLOW FEVER.

Mr. Editor, — In compliance with your request, I shall endeavor to snatch some odd moments from the pressing duties of this epidemic, and describe some of its leading features, giving a glance at one or two points of treatment. Leaving aside the mode of origin or introduction of yellow fever this year as a subject still under consideration, it is to be noted that two cases occurring in the latter part of May among the crew of a steamer running to Havana were followed by no more cases until early in July. The usual method of disinfection by carbolic acid was carried out in connection with all the earlier cases, but it proved signally ineffectual. This disinfection is based upon the hypothesis of living germs as the *materies morbi* of yellow fever, which move along the ground and low-lying surfaces (not through the atmosphere), and which are reproduced principally, if not entirely, outside the human body. The plan is to attack surfaces supposed to be infected with a three per cent. solution of carbolic acid, and to commence by throwing a cordon of the disinfecting liquid around the infected locality. This area is then sprinkled over with the same liquid, and the work is sometimes repeated in a few days.

The above was the plan tried during the present year, but it seems as if the infected localities were not effectually inclosed, for new foci continued to appear at spots more or less remote from those first affected, until the fever gradually assumed epidemic proportions.

Every epidemic has some characteristics of its own. That of 1867 was marked by its wide-spread influence over our population, including negroes, with a prevalence amounting to a total of about forty thousand cases, and the low mortality of about eight per cent., as estimated from the most probable data. The most striking characteristic of the present epidemic is its partiality for young children, most of the subjects and most of the deaths thus far having occurred among those born since 1867. Several infants born since the appearance of the fever have been attacked, among whom I may instance in my own practice one five weeks old when it sickened, and another not quite four days old. The former recovered deeply jaundiced; the latter was a case of very moderate severity.

Another characteristic is the frequently unprecedented severity of its onset among young children, death having occurred within twelve hours in some instances, with a temperature from 106° F. to nearly 108°. Heretofore young children have got off for the most part very lightly, and the opinion was formerly prevalent that children born here were exempt. Even now some people, including a few Creole physicians, adhere to this antiquated belief, in face of the hundreds of native children that have died this year with the most marked symptoms of yellow fever.

The great prevalence of the fever among young children is plainly referable to the fact that they have not been subjected to its infection before; and its unexampled fatality is reasonably explained by the want of that early and gradual *seasoning* to the morbific influence which was formerly acquired by the yearly presence of the disease and the frequency of its epidemic visitations.

As to treatment, there is no plan of general adoption among our practitioners, and most allow that each case must be treated on its own merits, as indications arise. The advocates of the old quinine mode continue to give large doses (some with the addition of opium) at the inception of the fever, with the view of promoting perspiration and obviating the usual severe pains in the forehead and lumbar region. One medical gentleman started this year on the disinfectant plan of giving carbolic acid internally. There are probably some other special hobbies, which I have had no time or inclination to notice. A large proportion (myself included) commence by a thorough evacuation of the alimentary canal, and for the rest rely chiefly, in ordinary cases, upon moderate diaphoresis, which is generally maintained by a single blanket, warm drinks, and hot foot-baths, *pro re nata.* Most cases can be taken through successfully without a dose of physic by the mouth after the preliminary evacuation of the *primæ viæ.*

A new mode of treatment (to this city at least) has been introduced, with special reference to cases marked by an excessive temperature. This is the external use of cold water, and it has been found highly efficacious in cases adapted to its application. The most effectual appliance is one invented by Dr. Kibbie, of New York, who is now here putting it to practical trial. It consists of a cot with a cover of loose mesh, and below a rubber cloth arranged as a gutter to carry off the water. The patient is wrapped in a sheet or blanket, placed on the cot, and subjected to an irrigation of water from a sprinkling-pot, until the temperature is reduced nearly to the standard of health. He is then rubbed dry, wrapped in a dry blanket, and left to sleep on the same cot. This process is repeated as often as the temperature rises above the point of danger, — say 104°. The plan has been found highly satisfactory in a number of cases, and will be further tried. Occasions have arisen when it was found desirable to resort to refrigeration in the absence of the "fever cot," and several practitioners have used such modes and appliances as their own ingenuity could supply; the results have been found highly encouraging.

The value of the clinical thermometer is found inestimable in the treatment of yellow fever this year, and its possession gives us a great advantage not enjoyed in 1867. It serves both as a compass to point the way in management, and as a beacon to warn of danger; and, besides, it has proved the fallacy of an old notion that this is a fever of a single paroxysm and a definite limit to seventy-two hours. We now find the fever subject, in many cases, to irregular fluctuations, and that it may last even ten days and then terminate favorably.

Physicians are required to report all cases in their practice, and compliance has been quite the rule, with rare exceptions. The mortality among the reported cases has not varied materially from thirty per cent., but this is considerably higher than facts would show were all the cases brought to light. Many cases, particularly of young children, are treated by their parents, and no physician is called, unless dangerous symptoms supervene. This has always been the case here, but is probably so to a greater extent than ever be- plain directions for the management of cases, and people are generally well fore this year. The Board of Health has printed and widely circulated some informed of the necessary course to give a person a fair start.

The benevolence of sympathizing people at a distance is manifested in a variety of ways besides liberal contributions of money and provisions. Unacclimated physicians have written to offer their services, without reflecting that they would be sure to contract the fever and thus increase our difficulties. One gentleman of education and intelligence, to my knowledge, has come from a distant State and lost his life in attending on the sick. The use of secret remedies has been offered, — of course for a consideration. Innumerable specifics, of infallible efficacy, have been suggested, in letters to the mayor and Board of Health, by individuals who never saw a case of yellow fever, and probably would not like to see one. Our newspapers teem with advertisements of sure preventives, and I have been called out of bed at night to see a credulous fellow who made himself seriously ill with one of these nostrums, which exhibited the familiar odor of ipecac. Many trust in Holman's liver pad, and others in little bags of assafœtida and camphor suspended to the neck. This mild fetichism affords great comfort to minds which lean on faith in the mysterious, — a faith unshaken by failure and disappointment even to themselves; therefore it is not quite useless, and on the whole vastly preferable to those frauds which are palmed off under the guise of great medical discoveries.

The above are a few of the most salient points of our epidemic. I cannot undertake now to afford more than a passing glance at the grand and dreadful panorama, through which we are passing, too busy to speak to the outside world, except in acknowledgement of their sympathies and material contributions to our relief.

Respectfully yours,

S. S. H.

New Orleans, *September* 19, 1878.

LETTER FROM PHILADELPHIA.

Mr. Editor, — I left Boston early in the week to attend the third annual meeting of the American Gynæcological Society, appointed for this year in this brilliant city. The distance is only three hundred miles, and that done by the New England road between seven in the evening and nine the following day, most of which time is passed while comfortably asleep in your berth. Philadelphia, as everybody knows, has always been a great medical centre, its graduates radiating in every direction over the country, from Maine to California. A mere enumeration of the great names of its teachers would fill more space than I should dare to ask of your journal. Rush, Shippen, Physick, Dewees, Hodge, Meigs, Chapman, Wood, Gibson, Horner, Jackson, Dunglison, Mitchell, Atlee, Pancoast, and Gross are names familiar as household words to every American physician; and the same indeed may be said of its present array of active teachers, brilliant successors of these distinguished men. What more appropriate place for the meeting of this wide-awake progressive new society, comprising as it does so many representative men in a comparatively new medical field? When I entered the hall of the College of Physicians, in which the meetings were held, I could but wonder how the venerable teachers of the past generation, some of whose portraits adorned the walls, and all of whom held sway in one or the other of the rival University and Jefferson schools, would have scouted the idea of such an entire revolution in the practice of their successors. Few of them probably ever heard the word gynæcology. Forceps were a dread mystery, to be dealt with by the high priests of the art only; the use of the knife abandoned to the hands of the so-called pure surgeon alone; laparo-hysterotomy practically unknown, though Physick had suggested and Baudelocque attempted it; lacerations of perinæum and cervix and vesico-vaginal fistulæ rarely cured, even if the cure was attempted; and as to ovariotomy, who among the middle-aged men of to-day does not well remember the hue and cry about this so-called preposterous, unscientific, unjustifiable operation of "*belly-ripping*"? Our own grand and conservative Massachusetts Medical Society thought it at last worth while to offer a prize for the history and statistics of the operation, of the result of which offer it is perhaps not becoming in me to speak, though I may possibly venture to claim that it had its share of influence in bringing the operation into more general notice and favor.

One naturally wonders how the doctors managed matters in those old times, for the same disorders must have existed then as now. To judge from the little said of them, these infirmities must have received but scant courtesy. The women apparently lived and worried through them, either in happy ignorance of the cause of their torments, now so commonly recognized and successfully treated, or, knowing, submitted, in the despair born of ignorance, to the miserable lives which progressive modern science has done so much to render comfortable and desirable. This new society, then, has come to its birth in good season. Some centre surely was needed about which gynæcological science could gather, where both overmeddlesomeness and apathetic indifference could be brought to the rack of scientific criticism, crudities repressed, and intelligent investigation encouraged. Certainly, even in these days, with such a plethora of new societies, this one may claim a sufficient *raison d'être.*

Most of its members are engaged in active general practice, where they find a class of local and reflex feminine disorders needing special development, and whose pathology and treatment have until late years been hardly suspected even, and are only now beginning to assume some definite and rational shape.

The society, large enough in its infancy to embrace a few from all sections, and small enough for working efficiency, embraces men of such tried and well-merited reputation as will guarantee its authority and influence in giving direction and concentration to the energies of those who, for lack of such a tribunal, could get no wide and at the same time *special* hearing. If it continues to excite the interest and emulation now existing, all will realize that there is work enough for it to do, which could never be so well done in any general society. Its field is not "close-cropped stubble" (as the "Professor" has recently and happily called another branch of medical study) for the gleaners, but rather a luxuriously growing harvest, to be sedulously and patiently cultivated for the sickle. Let us hope that it will weed out the tares as they spring up, and do something to keep in check much unnecessary and ill-directed exclusively local treatment. In this connection let me say that the paper of Dr. Goodell, which, being in the form of a presidential address, could not properly be discussed, besides being a most interesting and scholarly production, was an apt showing of the value of constitutional measures as a large factor in any successful treatment. The eminently successful cases which he cited enabled him to pay a generous and well-deserved compliment to his distinguished friend, Dr. Weir Mitchell, whose general plan he followed, and whose book should be a manual in every gynæcologist's hands.

To one who knows Philadelphia, it is needless to say that hospitality abounded. To say nothing of elaborate lunches and receptions, the Obstetrical Society gave a delightful dinner at St. George's Hall, and though, to my dismay, I found speeches were in order, and felt a sudden consciousness of some remote and hitherto unsuspected stream of Quaker blood stirring in my veins, their genial president made it easy for all whom he called upon, even the modest and untried, to clothe their ideas in words and deliver themselves. The spirit was in all; it moved easily, and though neither chloroform nor ether were visible, the anæsthesia so skillfully induced caused such a delightful sensation that your correspondent, for one, would not have objected to a multiple labor. But I must not encroach upon your regular correspondent, from whom you will get a skillful digest of the scientific proceedings, the essays, and discussions, and to his report I will refer your readers. G. H. L.

SHORT COMMUNICATIONS.

CORRECTION.

Mr. Editor,— Please correct statements attributed to me in report of American Dermatological Association. I did not say that I regarded vitiligo as a syphilitic lesion. I stated that I had seen the affection with unexpected frequency in syphilitics, but have often seen it in others. I did not say that the positive needle in electrolysis produced the most *scarring*, because, other things being equal, the reverse is the case. I said that if a positive needle of steel was used, there was danger of *staining* from the oxide of iron which is formed during the process of electrolysis. I remain yours respectfully,

Henry G. Piffard.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT.—No. XII.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, *September* 28, 1878.

NEW ORLEANS.—During week ended yesterday evening there were 926 cases of yellow fever and 332 deaths. For the last twenty-four hours there were 124 cases and 51 deaths. Total cases 8464, deaths 2700.

SOUTH PASS, LA.—There had occurred to the 26th inst. 42 cases of yellow fever and two deaths.

MORGAN CITY, LA.—For the week ended yesterday evening there were 79 cases of yellow fever and 12 deaths. Total cases 145, deaths 30.

BATON ROUGE, LA.—From September 20th to nine A. M. the 26th there were 221 cases of yellow fever and seven deaths. Total cases 873, deaths 46.

PLAQUEMINE, LA.—During the week ended September 15th there were 16 deaths from yellow fever. One hundred and thirty cases were still under treatment. The first case occurred August 1st. Total cases to September 15th 305, deaths 53.

PASS CHRISTIAN, MISS.—Twelve cases of yellow fever and two deaths occurred during the week ended yesterday evening. Total cases 33, deaths three.

BILOXI, MISS.—There were five cases of yellow fever and one death during the last week. Total cases 25, deaths eight.

MISSISSIPPI CITY, MISS.—Eight cases of yellow fever and one death occurred last week.

OCEAN SPRINGS, MISS.—During the week ended yesterday evening nine cases of yellow fever occurred and five deaths. Total cases 60, deaths 17.

BAY ST. LOUIS, MISS.—There were 53 cases of yellow fever and 15 deaths during the week ended yesterday evening. Total cases 78, deaths 20.

WATER VALLEY, MISS.—During the eight days ended September 21st there were 18 cases of yellow fever and five deaths. Total cases to that date 21, deaths 7.

VICKSBURG.—Fifty-eight deaths from yellow fever during the week ended yesterday evening, 14 of which occurred in the last twenty-four hours. Total deaths to date 779. Assistant Surgeon Keyes reports "epidemic over, save a few sporadic cases."

GREENVILLE, MISS.—Out of a remainining population of four hundred and fifty, 227 have died of yellow fever. Sixty persons are now sick with the fever, mostly convalescent, and "material for new cases exhausted."

GRENADA.—Since last report there have been 10 new cases of yellow fever and three deaths. Total deaths to yesterday evening, 274.

PORT GIBSON, MISS.—Total cases of yellow fever to last evening, 620. Total deaths 110.

MEMPHIS.—Deaths from yellow fever for the week ended September 26th, 297. Total deaths 2428.

BROWNSVILLE, TENN.—During the week ended yesterday evening 67 cases of yellow fever and 22 deaths occurred. Total cases 197, deaths 66.

ST. LOUIS.—During the past week four deaths from yellow fever at quarantine. None in the city. Only two cases now under treatment at quarantine.

CAIRO, ILL.—During the last week there were two cases of yellow fever, one of them a refugee. Total cases 14 and six deaths.

LOUISVILLE, KY.—Eighteen cases and 10 deaths from yellow fever occurred during the week ended September 27th. Nine cases and five deaths were among the inhabitants living within two or three squares of the Louisville and Nashville depot, where some unclaimed baggage of refugees had been stored. The first case among the inhabitants occurred September 23d. Total cases 95, deaths 36.

CINCINNATI.—No new cases nor deaths from yellow fever within the last week.

GALLIPOLIS, OHIO.—Since the last report, to September 24th, three new cases of yellow fever and five deaths have occurred. Two of the new cases are not traceable to the steamer Porter. Total number of cases 31; total deaths, including the six on the Porter, 17.

CHATTANOOGA, TENN.—A refugee was taken with yellow fever August 21st, and another September 6th. The first case among the inhabitants occurred September 18th. Total cases to last evening 41, deaths 26.

MOBILE, ALA. — From September 20th to the evening of the 24th there were reported to the board of health as yellow fever 11 cases and seven deaths.

KEY WEST, FLA. — No new cases of yellow fever the past week.

One refugee died of yellow fever in Dayton, Ohio, September 21st.

One case of yellow fever occurred in Philadelphia and one in Richmond during the same week; both were refugees from the South.

Yellow fever prevails in a number of small towns in Louisiana, Mississippi, Tennessee, and Kentucky, from which definite information of the number of cases and deaths has not been received. The fever is reported as spreading to the plantations.

HAVANA, CUBA. — For the week ended September 21st there were 31 deaths from yellow fever and nine from small-pox.

RIO DE JANEIRO. — From fourteen to twenty-two deaths from small-pox occur daily. No other contagious disease prevails.

MOROCCO, AFRICA. — Advices from Fez and Mequinez to August 24th are to the effect that the cholera is decreasing. Small-pox prevails in the ports of Magador and Saffi. In the latter port about fifteen deaths occur daily from that disease.

CALCUTTA. — Ten deaths from cholera and 17 from small-pox: week ended July 27th.

BOMBAY. — Thirty-two deaths from cholera: week ended August 6th.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Sept. 21, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	474	22.55	23.42	28.71
Philadelphia.	876,118	273	16.20	18.80	21.54
Brooklyn.	549,438	225	21.29	21.51	25.50
Chicago.	460,000	159	17.97	17.83	22.39
Boston.	375,476	146	20.22	20.10	24.34
Providence.	100,000	44	22.88	18.81	19.20
Lowell.	55,798	20	18.64	19.09	22.50
Worcester.	54,937	14	13.26	20.06	22.30
Cambridge.	53,547	20	19.42	18.69	20.83
Fall River.	53,207	19	18.57	21.35	24.96
Lynn.	35,528	23	33.68	20.42	19.67
Springfield.	33,981	6	9.19	16.02	19.77
Salem.	27,140	4	7.66	20.38	21.15

BOOKS AND PAMPHLETS RECEIVED. — A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M. D., F. R. C. P. With Notes and Additions by Rober P. Harris, M. D. Second American from the Second and Revised London Edition. Philadelphia: Henry C. Lea. 1878.

Medical Electricity. By Dr. C. V. Meador, Little Rock, Ark.

The Pathological Anatomy of the Ear. By Hermann Schwartze, M. D. Translated by J. Orne Green, A. M., M. D. Boston: Houghton, Osgood & Co. 1878.

Treatise on Dental Caries. By Dr. E. Magitot. Translated by Thomas H. Chandler, D. M. D. Boston: Houghton, Osgood & Co. 1878.

Ninth Annual Announcement of the Woman's Hospital Medical College, Chicago, 1878–79.

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A CASE OF RECURRENT CUTANEOUS HÆMORRHAGE, WITH URTICARIAL AND BULLOUS EFFLORESCENCE.

BY JAMES C. WHITE, M. D.,
Professor of Dermatology in Harvard University.

The patient, Mrs. M., was a tall, well-formed, robust woman, aged thirty-nine. She had always been well, and particularly strong, living upon a farm in the interior of Maine. The disease made its first appearance four years ago, since when it has recurred regularly three or four times a year, each attack lasting six or eight weeks. For the first two years the characteristic changes in the skin were confined to the hands and feet, but later they have been more widely distributed. This latest attack had begun three weeks previously in Maine, and presented, when I saw her, April 20th of this year, the following appearances: —

The whole forehead was of a deep violet-black color, as if badly contused, the discoloration being separated from the healthy skin of the cheeks and lower temples by an abruptly defined, irregularly curved outline, as if the disease were making a serpiginous progress downwards. Within this dark field the skin was infiltrated in patches, and presented also numerous excoriated points. The rest of the face and the ears were deeply reddened, and showed irregularly circular areas of infiltration of various sizes, slightly elevated and excoriated, which also exhibited hæmorrhagic effusions of different shades of color. The neck was in a similar state. The palms of the hands were occupied by numerous bullæ, ranging in size from a pea to a nutmeg. The contents of the smaller were serous, of the larger ones more or less sanguinolent. Some of them were discharging a bloody fluid. Intermingled with these bullæ were large hæmorrhagic patches of elevated infiltration, and excoriated surfaces, the seats of former bullæ, still oozing or covered with sero-sanguinolent crusts. The fore-arms and lower legs, from the knees down, parts which had become affected only a few days previous to her visit, exhibited a sparse eruption of urticarial

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[1] Presented at the second annual meeting of the American Dermatological Association, August 29, 1878.

wheals, circular erythematous patches, and small bullæ, a considerable proportion of all of which were becoming somewhat hæmorrhagic in character. The skin elsewhere was entirely healthy. The sensations in the parts affected were great itching and burning in the primary forms of eruption, and soreness of the excoriated surfaces. Her general condition was very good, as before the attack, and it continued to be so excepting the lassitude and nervous exhaustion in consequence of loss of sleep dependent upon the subjective symptoms.

The disease was allowed to progress for a week under observation without treatment, during which time the changes in the skin were seen to follow certain definite courses. The first appearances on surfaces freshly invaded were either circular erythematous patches or well-defined wheals, both varying in size from a pea to a silver half-dollar, which remained unchanged for twenty-four hours. After this time some of the erythematous patches would assume the form of pomphi, some of the original wheals would subside into blotches of erythema, while some of both kinds of efflorescence would become bullous in character. Within forty-eight hours all these multiform lesions would become more or less hæmorrhagic, varying in tint from a bright arterial scarlet to the deepest purple black, while large surfaces of intermediate and surrounding skin appeared as if stained by the severest contusion. Extraordinary appearances were thus produced. The subsequent changes in the various lesions were very slow. Some of the bullæ would increase in size, and so fill as to contain half a wine-glass of bloody serum; others would rupture under the scratching which the intense itching provoked, and become oozing surfaces; while upon these as well as upon other forms of excoriation sero-hæmorrhagic crusts would form. Upon the palms and soles the efflorescence was wholly bullous, and upon the latter the bladders attained great size later in the attack, and prevented walking for ten days. The disease extended downwards as far as the chest, upon the arms upwards nearly to the shoulders, and from the feet half-way up the thighs. The rest of the surface remained perfectly healthy. There was no apparent affection of the mucous membrane anywhere.

The patient was under observation a month, during which time various local applications were used, which served only to relieve the severity of the subjective symptoms. Neither they nor the internal administration of medicine could be claimed to have shortened the course of the changes in the skin, for their progress was the same upon the face, where scarcely any local treatment was employed, as upon the limbs, where several agents were applied; and, moreover, the whole duration of the attack was almost precisely that of the many previous ones, — seven weeks. Internally iron and Fowler's solution of arsenic were given, the latter continuously in doses of six drops three times daily. The changes in the cutaneous tissues diminished rapidly in intensity after the outbreak of the large bullæ upon the palms and soles. The latter also healed rapidly. No pigment stains were left to mark the seat of any form of efflorescence. The patient went home looking and feeling well, under directions to continue the use of the arsenic for months. What influence the drug may have upon the recurrence of the disease remains for time to determine.

The nature of the affection is not clear. The occurrence of mixed erythematous, urticarial, and bullous efflorescence, running an acute course, and forming a well-defined although rare disease, is well known to you. Such cases cannot be classed strictly under erythema, urticaria, herpes, or pemphigus, although the characteristic cutaneous lesions of all of them are not only present together, but individually pass into each other, the erythematous patch or wheal rapidly changing into the group of vesicles or a bulla under the violent pressure of serous exudation. Such forms when of extensive distribution illustrate in a striking manner the close kinship of the above affections, and the common pathological process which underlies them. To such the terms hydroa, erythema bullosum, urticaria bullosa, pemphigus pruriginosus, etc., have been applied. They form a group or family of affections which demand more careful and discriminating study than they have yet received.

In this case we have a new element introduced, — hæmorrhagic effusion; hæmorrhage not only into these preëxisting forms of efflorescence, the centres of hyperæmia and fluid exudation, but also into much wider, surrounding districts of otherwise healthy cutaneous tissue. The combination of hæmorrhage with urticarial exudation in the same lesion is occasionally observed and called urticaria hæmorrhagica, or purpura urticans. The occasional hæmorrhagic characters of other forms of efflorescence also are well-recognized phases of cutaneous eruptions, but in these instances the bleeding at any one point is always of limited area. It is only in the cases of acute exanthemata of the gravest constitutional nature, and in those passive forms of disease so little understood which we include under the term *purpura*, that the cutaneous hæmorrhage affects wide and continuous districts of integument. In this case there were no accompanying symptoms indicative of active constitutional disturbance or of a depraved condition of the vital fluids, and the hæmorrhage extended far beyond the limit of the local inflammatory manifestations. The regular recurrence of the affection throughout a period of several years, and the uniform duration of the attacks, are also elements which add greatly to the singularity of its character. I can offer nothing in explanation of it, and this account may fairly be considered as a contribution to the general mystery of the ætiology of cutaneous hæmorrhages.

SOME ANOMALIES IN PREGNANCY.[1]

BY JOHN CROWELL, M. D., HAVERHILL, MASS.

THE diseases peculiar to pregnancy are so well known to the profession, and their manifold conditions and modifications have been so often and so clearly set forth, that any further elaboration seems superfluous. The disturbances to the nervous functions resulting in hysteria, mania, and local paralysis; the lesions of the circulation as indicated by plethora and hydræmia; the disturbances of the secretions and excretions as seen in ptyalism, albuminuria, and uræmia; the lesions of the pelvic articulations, and other minor disturbances have been minutely defined in the books. Occasionally, however, there comes within the experience of the physician a case so peculiar in its manifestations, and so perplexing in pathology and in the indications of treatment, as to justify a special notice of the prevailing phenomena. Such cases may be termed *anomalies*, — more interesting, perhaps, as curiosities than specially helpful in their practical significance.

Among these exceptional phenomena may be mentioned severe or uncontrollable vomiting and ptyalism, unconscious pregnancy, and mistaken diagnosis in pregnancy.

I. *Vomiting* during the earlier stages of gestation is no unusual occurrence. It frequently exists with varying degrees of severity until the period of quickening, when it ceases, and the patient passes on without any further trouble from this source. Now and then we find a case where these disturbing influences commence with the suppression of the menses, and continue with unabated violence until the moment of delivery.

A recent case in my own experience will serve to illustrate this anomalous condition.

The patient, a lady of keen, sensitive nervous organization, but in perfect health, was attacked at the time of her impregnation with the most violent and distressing nausea, vomiting, and salivation. There was at first but little nervous excitability, and the patient exerted all the force of her strong will to assist in the efforts made to overcome the difficulty. Food of any kind taken into the stomach produced severe retching, attended with syncope and followed by extreme prostration. In this condition she was removed to her country home in the central part of the State, where she was placed under the charge of the resident physician. To his careful attendance and copious notes we are indebted for the minute details of this unusual case.

The violence of the retching was extreme, and the salivation was so copious that the services of an attendant were constantly required, — a common spit-cup being filled in a very few minutes. The pulse was small, quick, and at times intermittent, varying from 80 to 120 in the minute. Repeated consultations resulted in futile attempts at alleviation, and the books were searched, and the wisdom of obstetrical specialists was sought in vain for practical aid.

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[1] Read at the annual meeting of the Massachusetts Medical Society, and recommended for publication in the JOURNAL.

These symptoms continued, with varying degrees of severity, throughout the entire period of gestation. The impulse of quickening served to aggravate rather than to palliate the disturbance. The patient, now unable to lift her head from her pillow, was gradually reduced to a state of emaciation similar to that seen in pulmonary phthisis, and the induction of abortion was seriously contemplated as the only hope for her safety. Medication by means of drugs introduced into the stomach proved worse than useless. Every remedial agent known to the profession was in its turn tried in vain. All applications to the os uteri were followed by an increase of suffering, and medicated injections per rectum were attended with only indifferent temporary relief. Counter-irritation over the region of the stomach and sedative applications only served to annoy the patient, and stimulants produced the most agonizing distress.

The only palliation afforded was by means of the hypodermic injection of morphine, and to the brief intervals of relief thus obtained was due the ultimate recovery of the suffering patient.

The injection of one eighth or one sixth of a grain of the drug was followed at once by a cessation of the violent symptoms; liquid food sufficient to sustain life could be taken and retained, and several moments of sleep would follow.

In this condition the patient passed the period of her pregnancy, was delivered of a full-grown child after an easy, natural labor, and her subsequent restoration to health was rapid and complete. The patient experienced none of the distressing results which so often follow the persistent use of morphine. Although the hypodermic injection had been resorted to every three or four hours each day during nearly the whole period of gestation, yet the use of the drug was dropped at once after parturition, and the normal functions were assumed without any embarrassing interference. Fears were entertained that the child might be injured by this long-continued opiate treatment, but, on the contrary, he gives evidence of an intellectual capacity above the average.

II. *Unconscious Pregnancy.* — The signs of pregnancy are so positive that it seems fabulous to state that a patient can pass through all the stages of gestation up to the time of delivery entirely oblivious of her condition. Yet anomalies of this kind do sometimes occur, and they come to us so well authenticated as to challenge our credulity as to their genuineness.

A case in my own experience may serve to illustrate this abnormal condition.

A lady of good social position, and possessed of unusual intelligence, came from New York to spend a few weeks with her friends in the country. She had been married seven years without becoming pregnant, although she had been frequently troubled with suppression of the menses, of several months' duration. The members of the family in which she was visiting, including a mother of ten children, had no suspicion of her pregnancy, and the lady herself was too sensible and honest to deal in deception.

While making preparations to return to her distant home she was suddenly seized with pain, and I was summoned to attend a "case of bilious colic, attended with inability to retain the water." On arriving at the house the lusty crying of a child greeted my ears, which accounted for the symptoms described by the messenger. The mother was in an agony of fright, confusion, and dismay. She declared with solemn assurance that she had not the slightest expectation of such an event, and while the anxious female attendants were improvising garments for the little clandestine visitor, the mother sank into a state of mental depression, from which the assertions of the maternal instinct could not arouse her. The surprise of the husband upon his arrival was equal to that of his friends, and the good ladies for miles around sought in vain to produce a precedent.

But while the child gave promise of unusual activity and intelligence, the mental disturbance of the mother increased. Under the morbid impression that every one believed that she had carried on a deception, she became more and more excited, until acute mania rendered her unmanageable. She was removed to an asylum, where she recovered in a few months.

The question may arise whether the oblivious condition of the mother was a hallucination, occasioned by the reflex action of gestation upon the mental organization. If this subtle condition existed, there was no physical manifestation of it in the patient. Her whole demeanor, so far as was observed by her friends, was that of perfect consistency, and no sign of eccentricity or of mental obliquity could be recalled by her husband or attendants. During her temporary insanity the prevailing impression seemed to be that of mortification at her stupidity. She seemed haunted with the impression that she had wronged her child by being unconscious of its existence until it was ushered into the world. It may be interesting for those who place great stress upon the influence of the mother upon the mental and physical development of the child in utero to know that the result of this unconscious impregnation possesses unusual personal charms, with an intelligence far above the average of those who are conceived with a purpose.

The mother has again been pregnant, passing through each stage with a complete consciousness of her condition.

III. *Mistaken Diagnosis in Pregnancy.* — The methods of diagnosis in pregnancy are so varied in character and so thorough in their application that grave mistakes in this direction are comparatively rare in their occurrence.

Occasionally, however, we are confronted by a combination of phenomena so unusual in their manifestation as to test severely the skill of the medical attendant.

In illustration of this topic I will venture to report a case so peculiar in its manifold aspects as to be anomalous. The patient was forty-five years of age. She was a lady of fine mental accomplishments, and possessed of an unusual degree of force and energy of character, with a physical organism the farthest removed from hysteria in any of its multiplied phases. She had been happily married twenty years without pregnancy. Some three years since, while residing in a neighboring State, she was surprised by the sudden arrest of her usually regular menstruation, attended with other peculiar disturbances. Uncertain as to the cause of these phenomena, she sought the advice of a respectable physician, who, after some examination, assured her that she was not pregnant, but that she was laboring under an ovarian difficulty. She was subjected to a diuretic and drastic treatment, and had the abdomen thoroughly painted with tincture of iodine.

Finding no diminution in the size of the tumor, and being somewhat depleted by the treatment, the patient sought other medical advice, and was subjected to an extended exploration, including the introduction of the sound into the uterine cavity, and she was again assured that there was no impregnation, but that the enlargement was owing to ovarian dropsy. In two weeks after this manipulation the uterus expelled a fœtus of six months' growth.

The revulsion upon the patient caused by this unexpected result was both sudden and complete. Grief, anger, disappointment, and chagrin combined with their conflicting emotions to produce the most deplorable effect upon her strong nature. Extreme nervous prostration was accompanied by severe pain in the abdomen, obstinate constipation, retention of urine, with nausea, vomiting, and copious salivation.

In this condition the patient was removed to Haverhill, and placed under the care of her former family physician. The case resisted all the usual forms of medication. Doses of five or six grains of morphine were resorted to before the pain could be alleviated. The constipation was unaffected by the administration of drugs or by enemata. For eleven weeks there was not the slightest movement of the bowels, and the urine was passed by means of the catheter. Only the slightest forms of nourishment could be retained, and the patient was reduced to a state of extreme emaciation. There was some leucorrhœa, but the uterus was *in situ*, with slight congestion of the os. There was a hardened tumor in the left iliac region, very sensitive to the touch, and this locality was the seat of the intense pain.

The patient gradually sank under the extreme suffering and functional disturbance. But the *vis medicatrix naturæ* had not completely exhausted its power. The pulse and consciousness returned, and all the peculiar symptoms slowly gave place to a more normal condition. There was, however, a total loss of memory, and the strong intellectual capacity was degenerated to a childish feebleness of expression. It is now three years since the miscarriage occurred, and the lady has so far recovered as to be able to remove to her country home. Her mental faculties have been slowly asserting their power, the catamenial discharge has returned, and the patient is able to walk without assistance. Her complete restoration to her usual mental and physical integrity seems to be simply a question of time.

The habit induced by the large doses of morphine was not broken up without a severe struggle, both on the part of the patient and her attendants. After the subsidence of the exacerbations of severe pain the dose was gradually diminished, until it reached half a grain in the twenty-four hours. This dose was adhered to with great tenacity, until returning strength brought sufficient will power to give it up entirely.

RECENT PROGRESS IN ORTHOPÆDIC SURGERY.

BY E. H. BRADFORD, M. D.

Refracture for the Relief of Deformity from badly treated Fracture. — Although the idea of "rebreaking broken bones" is probably as old as surgery, little has been done to define the limits and indications for a procedure which otherwise hardly rises above the level of the brutal surgery of the bone-setter. Dr. John Roberts' paper[1] on the subject is therefore of value. The number of cases reported is not large, but the subject is well discussed, and treated in a manner worthy of imitation. He claims as follows: that "refracture is the best method of correcting deformity after maltreated fractures. . . . It may be undertaken whenever there is a possibility of overcoming the causes that gave rise to the deformity after original fracture. . . . The time is only limited by the ability of the surgeon to rupture the bond of union. . . . If the bone be healthy, there is no danger of fracturing in any situation but that of the original lesion. . . . The occurrence of erysipelas, abscess, necrosis, and pyæmia is too rare to be considered an objection to the operation. . . . Non-union almost never occurs. The results as to correction of the deformity and as to usefulness are uniformly satisfactory."

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[1] Edinburgh Medical and Surgical Journal, July and August, 1878.

The most suitable cases for refracture are those where, on account of imperfect treatment, union has taken place at the extremities of the fragments, but where there is an angular curvature. It is the opinion of the writer, contrary to what has been said by Hamilton, that something can be done in those cases of badly united fracture where undue lapping of the fragments has caused shortening.

"In attempting to dissever the fragments in instances of this sort the force should be applied in a manner to bring transverse strain on the fibro-osseous bond, which, though firm enough to support weight, is often for a long time weak enough to render rupture possible."

The time after the original fracture when it is still possible to bring apart the fragments varies in individual cases. Mr. Gay, at the Royal Free Hospital, London, is quoted as having refractured the femur for angular deformity twelve months after the original injury. Skey broke up a united fracture of both bones of a leg in a boy thirteen months after the original injury. The shortening, which was two inches, was reduced to three fourths of an inch. The union in this case was not perfectly firm.

The methods for performing refracture differ in almost every case. In the simplest cases the distorted limb is bent by the hands. Any hard substance can be used as a fulcrum. Judging from the cases under his observation, Dr. Roberts believes that the tissues around the fractured bone will tolerate an astonishing amount of rude manipulation.

If there is lapping after rupturing the united fragments, extension for an hour or so is advisable before dressing the fracture. A certain amount of length can be gained in this way.

Mr. Butcher has used with success a screw clamp in a case of fractured femur of five months' duration. The arch of the bone was broken down in this way.

In order to gain power and protect the limb from fracture except at the desired spot a straight splint may in certain cases be bandaged along the limb from the seat of fracture and beyond the distal extremity. The knee-joint can in this way be protected from injury in cases where the thigh is to be broken.

In some cases perforation of the bone by a drill, or partial section with a saw, is needed to render a fracture possible. Dr. Roberts thinks that there is little danger of breaking the bone at any other place than that of the former fracture. He bases his belief on experiments made on cadavera. The amount of force required to fracture sound bone he found to be very great, — much greater apparently than has been needed for the breaking of old fracture. In the after-treatment it is important that great extension for an hour or so should be applied, to paralyze the muscles which cause the deformity. Tenotomy is sometimes of use.

Disease of the Joints, Recent Methods of Treatment: Aspiration; Elastic Compression; Antiseptic Incision with Drainage; Carbolized Injection. — When Mr. Gay, of London, first incised a suppurating knee-joint the operation was regarded by his contemporaries as not a justifiable one. To a majority of the surgeons of the present time it will appear equally reckless surgery to incise directly, insert a drainage-tube, and wash out with an irritating solution a knee-joint affected with a non-suppurative chronic inflammation.

The number of cases reported as having been successfully treated in this way within a short time suggests the possibility that the knee-joint is not such a vulnerable part of the body as has been thought, or the opinion that modern surgery is able to accomplish what older surgery could not.

Dieulafoy's statistics of aspiration of the knee-joint are of value from the number of cases operated on by one observer. After two hundred aspirations of the knee-joint he states his belief that the operation is a rational and efficient one in proper cases, and when properly performed.[1] He always uses a No. 2 aspirating needle. A rubber band is placed around the articulation, leaving uncovered the place of puncture and where the fluid is to run. The point of election is the external cul-de-sac of the joint on the level of the upper border of the patella, and about two centimetres outside of this bone. As soon as the fluid is evacuated compression must be used. Cotton is wrapped around the limb, and a flannel bandage is applied from the foot up. Twenty-four hours after the aspiration the bandage is to be renewed, and if the fluid has collected again a new aspiration is to be performed. The number of aspirations needed before a cure is established varies in different cases and in different affections. Bloody and non-bloody effusions in the joint following an external injury usually heal rapidly, and require but one or two aspirations. Sero-fibrinous exudations (hydrarthrosis) vary in the number of aspirations required from one to six, but though in some cases the treatment is long, the time before recovery is certainly shorter than that during treatment in any other way.

Blennorrhagic hydrarthrosis is much more obstinate than any other form. More aspirations are needed before recovery, and the exudation returns quickly.

The method of elastic compression in treating chronic diseases of the joints is recommended by Cohn[2] and Martin,[3] and has already been mentioned in the JOURNAL. The treatment recommended by Scriba, of Baden, is much more bold.[4]

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[1] Gaz. hebd., 1878, No. 8, and Gaz. des Hôp., May 18, 1878, page 461.

[2] Allg. med. Central-Zeitung, December 5, 1877.

[3] Trans. Am. Med. Assoc., 1878.

[4] Medical Times and Gazette, September 15, 1877; Berl. klin. Woch., August 6, 1877.

Incision and drainage of the knee-joint are advised in chronic serous inflammation of the knee-joint; in chronic disease of the knee-joint with granulation, where there is effusion and no caries; in acute purulent affections of the joint with evident fluctuation; and in acute serous effusion, when the pain is so severe as to exhaust the patient.

Incisions are to be made on both sides of the patella, and a thick drainage tube is inserted; before the insertion of the tube the joint is to be washed out with a solution (two and one half to five per cent.) of carbolic acid. In chronic cases, if there are sinuses and fœtor, a solution of chloride of zinc (twelve per cent.) is used instead. The operation is to be done according to the strictest antiseptic precautions. In acute cases the tube should be removed in three or four days if the wound is sweet. If the secretion does not diminish quickly, the joint should be washed out again, but the tube should not be left longer than ten days, for fear of irritation of the cartilages. In chronic cases, however, the tube may be allowed to remain for twenty to thirty days.

The number of cases reported as treated in this way is six. No evil result took place in any of the cases, and the recovery is said to have been complete.

Where there is caries of the bone present it is the opinion of Scriba that excision offers the readiest method of treatment. Heinecke,[1] however, reports two unusual cases, where the joints were incised antiseptically, and a sequestrum and disease of the tibia were found: the sequestrum was removed; the diseased bone was chiseled out and scraped away. Recovery with some motion ensued in both cases.

Heinecke cites as an example of the advantage gained from the use of antiseptic precautions ten cases of affections of the knee-joint treated in the Magdeburg Hospital, where the knee-joint was incised and washed out. In all but two the joint was opened under spray. In two the opening was caused by a wound, but the joint was washed out with antiseptic solutions, and treated antiseptically. In seven cases the result was cure, with the establishment of perfect motion. In three suppurative knee-joints (two, the above-mentioned joint affections complicated with necrosis of the tibia) there was only limited motion on recovery. Of the seven entirely successful cases, one was an acute serous inflammation, one hydrops articuli fibrinosus, one sanguineous effusion, three were punctured wounds of the knee-joint, one was the removal of a loose cartilage from the joint.

Schüller reports[2] two cases of antiseptic incision and drainage of the knee-joint, one in a case of chronic synovitis with sero-purulent exudation. Recovery followed, but the details are not given. A second case was one of acute suppurative inflammation of the knee-joint following an attack of erysipelas. The patient died in fourteen days.

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[1] Deutsche Zeitschrift für Chirurgie, 1878, 10th Bd., page 296.

[2] Deutsche med. Woch., November 24, 1877.

Rinne reports[1] eleven cases of knee-joint affection tapped with a trocar, and washed out with a three per cent. solution of carbolic acid. Of these eleven, in five there was no reaction after the surgical interference; in four there was slight fever and a temporary return of the fluid. Nine are reported to have been completely cured, apparently with recovery of motion at the joint; one died of tuberculosis; one was improved, but was unable to walk without the help of a stick.

To recapitulate: there have been reported by competent observers within a few years a large number of aspirations of the knee-joint with favorable results; a number of cases of the knee-joint incised and drained by the insertion into the joint of a drainage tube; and a number of cases tapped with a trocar and washed with a solution of carbolic acid. Of these latter only one died, — a case of suppurative synovitis following an attack of erysipelas.

If this immunity from unfavorable results is accidental, it is remarkable. If it is not accidental, it is fair to attribute it to the antiseptic precautions employed. Whether it is accidental or not can be determined only by careful clinical observation. The question is certainly of importance, as the future treatment of disease of the joints is closely connected with it. One fact will be readily admitted: that experts in antiseptic surgery are much more bold, and claim better results, than other surgeons. Ranke's statistics, read before the German Congress of Surgeons,[2] show unusually good results, which are attributed by the writer to the antiseptic treatment. Out of seventeen cases of open wounds of the larger joints fourteen recovered, with motion at the joints, both in cases where there was injury to the bone, and where there was none. In the three which recovered with anchylosis the patients did not come under treatment until after suppuration had become established. In no cases did death follow.

Schüller, in his report of the surgical clinic at Greifswald, gives the results of twenty cases of knee-joint affections treated by Hueter's method of injection (with a subcutaneous syringe) of a solution of carbolic acid (two to three per cent.). The injection is made either into the thickened capsule, or into the granulations on the extremities of the bones forming the joint. It is reported to have been particularly useful in serous and sero-fibrinous effusions. In such cases more was gained in days and weeks by the injection than by months of other treatment.

Of the twenty cases of knee-joint disease treated in this way (five serous and sero-fibrinous synovitis, two hydrops articuli, two chronic rheumatic arthritis, eleven fungous synovitis) improvement is noted in all of the cases except two; of these one died of erysipelas following the prick of the needle, and the other underwent excision. The method is not considered applicable in purulent synovitis.

[1] Centralblatt für Chirurgie, December 8, 1877.

[2] Centralblatt für Chirurgie, Bd. xxix., page 480, 1878.

In one, a case of chronic rheumatic arthritis, injections were made daily for six months. No harm followed the repeated injections, and the patient is said to have improved to a marked degree.[1]

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PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

FEBRUARY 10, 1877. *Large Abdomen in the New-Born Child.* — DR. HODGDON exhibited the living child, aged three weeks, and gave an account of the case. At the labor the abdomen presented, the head to the left, and the feet folded over the abdomen. The feet were brought down and the child was delivered at once, as the os was well dilated when the patient was first seen. The abdomen of the child showed, besides an extraordinary size and fullness, a convoluted surface, evidently due to the distended intestines beneath. There was apparently no tenderness, and no tumor except a slight sense of resistance in the left side, which it was thought might be due to the presence of an enlarged spleen. The circumference at the date of the meeting was fifteen inches; a week before it was seventeen inches. The child seemed otherwise perfectly healthy. It weighed at birth eight pounds.

Monstrosity. — DR. CHADWICK showed the drawing of a fœtus, born nearly at full term, the abdomen of which was cleft from the ensiform cartilage to the pubes. All the abdomino-pelvic organs, as well as the heart and left lung, had been carried through the cleft by the growth of a large cyst, which was attached to the bodies of several lumbar vertebræ. The case is fully reported in the Transactions of the American Gynæcological Society, vol. i.

Uterine Polypus. — DR. MINOT showed a fibroid polypus, weighing eight ounces, and measuring four by two and one half inches and two and one half inches thick, which he had removed January 21st from an unmarried woman, twenty-four years old. She had suffered from profuse metrorrhagia for six years, and was quite blanched. There was also an abundant serous discharge along with the hæmorrhage. There was no pain and no dysuria. On examination the tumor was found to occupy the vagina, and to be movable, but on account of its size the pedicle could be reached only with the tip of the finger. It being impossible to use the scissors, and also very difficult to get a wire around the pedicle, on account of the want of space between the tumor and the walls of the vagina, the greater part of the tumor was first removed by the écraseur, and the remaining portion was then easily drawn down, and the pedicle severed with scissors. The pedicle was very short, one inch thick, and connected with the lower part of the uterus, anteriorly and to the left. The tumor lay with its longest diameter across the vagina. No hæmorrhage followed the operation, and the woman made an excellent recovery.

Synopsis of an Obstetric Practice of Forty-Two Years. — DR. INGALLS read a paper embodying the results of his obstetric practice during forty-two years. The paper is published in the JOURNAL, vol. xcvi. p. 485.

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[1] Deutsche Zeitschrift für Chirurgie, 1878, Bd. x., page 284.

Placenta Prævia. — Dr. Richardson reported the case, which was published in the Journal, vol. xcvi. p. 280. See also p. 193.

Dr. Wellington asked Dr. Richardson if it had occurred to him to turn in the case reported.

Dr. Richardson replied that he had not favored the idea of turning in this case. He thought it a better principle, if the pains were genuine and of reasonable frequency, not to turn, but to plug by the placenta itself; that under such circumstances there was comparatively little danger in leaving the delivery to the natural efforts. In the process of turning there was danger of prematurely separating the placenta. Dr. Richardson remarked that he had learned at Vienna the method pursued in the case reported.

Dr. Wellington said that he recently assisted Dr. Wyman, of Cambridge, in a case of placenta prævia. The patient was at full term, and had had severe flooding. The placenta did not cover the whole of the os. The head presented. It was agreed to rupture the membranes, turn, and deliver. The operation was done rapidly and skillfully by Dr. Wyman, and the placenta was delivered in about fifteen minutes from the commencement of the procedure.

Dr. Richardson said that in two of the three cases he had had, living children were delivered. In the third case the child had been lost by a profuse hæmorrhage before the arrival of medical assistance.

Dr. Chadwick said that while passing a week in Lenox, last September, he was called to the assistance of Dr. R. C. Greenleaf in a case of placenta prævia. Interference was postponed, with a view to allowing dilatation of the os, until the loss of blood had been considerable, and called for prompt action. He had then detached the margin of the placenta, which covered the os, passed his hand to the fundus, seized both feet, rupturing the membranes at the same time, turned, and delivered. The child, which weighed twelve pounds, was asphyxiated, but revived after half an hour of artificial respiration. Dr. Chadwick doubted whether, in this case, the labor would have advanced rapidly enough to have prevented excessive and perhaps fatal hæmorrhage had he chosen the method pursued by Dr. Richardson.

Dr. Richardson remarked that if the hand be retained in the cervix, and the placenta bent back upon itself, the bleeding surface is plugged, and the forceps may, if necessary, be applied at any time.

Dr. Chadwick, while admitting that this method would in great measure prevent hæmorrhage from the placenta, pointed out that until the head was engaged there was nothing to check the bleeding from the uterine vessels left patulous where the placenta had been detached.

Dr. Richardson responded that the escape of the child's blood would by this method be arrested, and one could watch the condition of the mother.

Dr. Sinclair said that he had generally found in cases of placenta prævia great rigidity of the cervix, and this was an immense barrier to delivery. He had in all cases delivered by turning. He referred to a case which he had reported at a former meeting of the society.

Dr. Richardson questioned whether it were not hazardous to plug the vagina, and trust in that for security. In case the membranes were unruptured, and the plug were in a satisfactory position there might not be much danger to the mother; but, on the other hand, might there not occur a gradual dissection of the placenta?

Excessive Discharge excited by Mucous Uterine Polypus. — Dr. Curtis reported the case of a woman some time ago under his care at the City Hospital. Four years before a closed Hodge's pessary had been introduced by another physician to relieve a retroversion. The patient was able to empty the bladder naturally, but she was subject to a constant discharge, which she supposed to be urine, and on account of which she sometimes wore as many as nine napkins a day, but which Dr. Curtis found to be a mucous discharge proceeding from a mucous polypus seated within the cervix. Upon the removal of the polypus the discharge ceased. The pessary was extracted with tolerable ease. It had produced upon the posterior wall of the vagina a sulcus, in the vicinity of which were a few vegetations. The retroversion continued.

Metrorrhagia from an Abnormal Condition of the Uterine Mucous Membrane. — Dr. Sinclair reported the case of a young woman, twenty-four years of age, whose catamenia had been normal, who five weeks ago began upon a period after the usual interval. The flow continued, and became a metrorrhagia, and was accompanied by an odor like that resulting from the retention of a placental mass; but this was not the case. After trying various things to stop the hæmorrhage Dr. Sinclair dilated the cervix with sponge tents. The uterus lay in a marked anterior position. After three or four days of dilatation the last sponge was withdrawn. Assisted by Dr. Chadwick the finger was passed within the cavity, which felt smooth, and indicated nothing abnormal. A Simon's spoon, however, came away charged with a mucous substance, which on examination had the appearance of minute sessile polypi, something more than a mere thickening of the mucous membrane. After a thorough scraping of the internal surface a solution of the subsulphate of iron was applied, and the hæmorrhage ceased. Dr. Sinclair said that, according to his previous experience, he apprehended a return of the hæmorrhage in about three or four months, when the operation would have to be repeated. The patient had never had any abnormal symptoms previous to the flow described. No microscopic examination was made of the scrapings. Dr. Sinclair mentioned the case of another patient on whom he had operated three times within a year. She then went on without any catamenia whatever for several months, but afterwards became regular, and her health was perfectly restored.

Dr. Abbot stated that he did not feel justified in doing so serious an operation except in an extreme case, when other means had proved ineffectual. Some eminent specialists had declined doing it on account of the serious results which had occurred in certain instances. He thought that uterine hæmorrhage was often due to a simple congestion, such as that which occasions epistaxis. It was well known that it occurred sometimes under the stimulus of a sudden emotion or excitement. He mentioned the case of a lady of middle age, with an irreducible retroflexion, who had flowed almost without cessation, and often very profusely, for a year, in whom the hæmorrhage was controlled in a short time by the ordinary means employed in such cases, — cold douches, ergot, digitalis, etc., — and the regularity of the catamenia restored in a short time. The most effectual local means employed was the ice poultice (pieces of ice imbedded in bran or meal, and inclosed in cotton or linen) applied above the pubes. He had been strongly advised by a member of this society in that instance to scrape out the cavity of the uterus, but had declined to do so, as he did not feel justified in incurring such a risk. This was the most severe case of uterine hæmorrhage he had been called on to treat, uncomplicated by organic disease, and yet in one week from the commencement of treatment the bleeding was entirely arrested, although frequent moderate recurrences required persistent use of remedies for a month or more.

Dr. Sinclair responded that he should think the operation by mere specialists might sometimes deserve condemnation. In one instance he had applied strong nitric acid. In fact, in some cases the uterus bears everything; in others nothing. He mentioned a case in which intense cellulitis occurred after interference. The patient has not yet fully recovered.

Dr. Lyman remarked that a microscopic examination would have been of value in the case reported by Dr. Sinclair. He referred to a case reported some years ago by Dr. Miller, of Dorchester. In this there was long-continued hæmorrhage until Dr. Miller dilated the uterus and scraped out the mucous lining. The result was a mass of proliferated mucous membrane, which was examined by Dr. Fitz, and found to be different from anything he had before seen. Dr. Lyman thought the fact had not been brought sufficiently to the notice of the profession that hæmorrhage will often cease on simple dilatation.

Dr. Chadwick said that the material removed by Dr. Sinclair felt like hypertrophied mucous membrane thrown up into folds.

Dr. Lyman replied that he did not think it possible to determine by the touch. If a fibroid you will feel it, if a polypus which is not loose you will feel that, but the distinctions between certain conditions of the mucous membrane are too minute and microscopic to be detected by the mere touch.

Dr. Sinclair stated that in carrying the finger to the fundus he could feel absolutely nothing abnormal, while the spoon, with the slightest scraping, removed quite a quantity of the peculiar material.

Dr. Bixby remarked that he once saw Dr. Marion Sims operate in a case of this sort. Dr. Sims, after scraping, threw the product into water, when shot-sized polypi fell to the bottom of the basin.

Dr. Lyman said *those* were mucous polypi, but sometimes the product was stringy, and of different character, being simply hypertrophied mucous membrane.

Dr. Bixby had had quite a number of these cases, but he always failed to to get the results that Sims did. In his own cases the products were shreddy.

Dr. Lyman said that after dilatation in such cases he was almost always in the habit of swabbing the internal surface of the uterus with strong tincture of iodine. Recently he had also used fuming nitric acid.

Dr. Bixby had seen quite a number of cases treated by the injection of tincture of iodine, which is preferred by some to the subsulphate of iron.

Dr. Chadwick cited the case of a patient whom he had last seen two months ago; she had been referred to him by Dr. Reynolds three years before for excessive metrorrhagia; on that occasion he had found and removed a mucous polyp that was attached to the posterior wall of the uterine cavity. After a year of perfect health she again flowed profusely, and hypertrophied corrugated mucous membrane was scraped from the whole cavity, with entire relief for another year. Three months ago there had been another recurrence of hæmorrhage, which had been cured in the same way, and she had twice menstruated naturally since. The relapses at regular intervals of a year were strange. Dr. Chadwick added that Dr. Fitz had been unable to pronounce between these modified conditions of the mucous membrane and sarcoma in one or two specimens which he had sent him. If sarcoma, it is sure to return; hence the importance of a diagnosis.

DUHRING'S ATLAS OF SKIN DISEASES.[1]

This part fully sustains the reputation already secured by its predecessors of furnishing the best illustrations in dermatology for the practitioner and student that are available. The diseases represented are vitiligo alopecia areata, tinea favosa, and eczema (rubrum). The first three are comparatively rare affections, and their recognition in doubtful cases can but be greatly facilitated by the faithful and typical portraits here presented. The accompanying text is of the same uniform excellence as in preceding parts.

ARLT ON INJURIES OF THE EYE.[2]

The volumes of White Cooper and Lawson have been, we believe, the only ones in English on the injuries of the eye. The former is now rather antiquated and inaccessible; the latter not so systematic as could be desired. The present work may therefore be considered to fill a place not previously occupied. It presents a systematic but brief account of the injuries of the eye, their prognosis and treatment, with illustrative cases, and though written with particular reference to the needs of the general practitioner who may be called to give a medico-legal opinion, will also be found of value to the specialist. The author has divided his subject into injuries caused by sudden compression or concussion of the eye; injuries produced by the entrance of a foreign body not acting chemically; scalds and corrosions of the eyeball. A short chapter is added on affections artificially produced or feigned. In this last chapter there is a careless mistake in the description of a method proposed by Welz for the detection of simulated blindness of one eye, which ought not indeed to mislead any one familiar with the subject. It is to be regretted that the translator has copied this mistake (it does exist in the original) at the top of page 189, though the fact that the correct statement is to be found in the next paragraph should have put him on his guard.

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[1] *Duhring's Atlas of Skin Diseases.* By Louis A. Duhring, M. D., Professor of Skin Diseases in the Hospital of the University of Pennsylvania; Physician to the Dispensary for Skin Diseases, Philadelphia; Dermatologist to the Philadelphia Hospital, etc. Philadelphia: J. B. Lippincott & Co. 1878. Part IV.

[2] *Injuries of the Eye, and their Medico-Legal Aspect.* By Ferdinand von Arlt, M. D., Professor of Ophthalmology in the University of Vienna, Austria. Translated, with the permission of the author, by Chas. S. Turnbull, M. D., etc., etc. Philadelphia: Claxton, Remsen, and Haffelfinger. 1878. Pp. 198.

The translation is in general good, but now and again fails to express clearly the author's meaning, and it contains some crudities of expression: for instance, "resolution of the nidus of accumulation" (*Klärung des Herdes*), page 36. Nor can it be considered in good taste that the translator's name instead of the author's should be placed on the back of the volume.

COLDS AND COUGHS.[1]

As Gresham professor of physic it is the author's duty to lay before the public what can in his judgment be most usefully taught concerning the laws of health, and those common breaches of them which produce disease. Coughs and colds have been very sensibly treated at his hands, and much valuable information can be gained on these subjects by the laity by the perusal of this little book. The author makes, we think, a very serious error, and one capable of doing real injury, in the following statement: "Those with advanced consumptive diseases get better and keep better so long as they remain in Colorado." Whilst Colorado offers one of the best climates in the world for the incipient stages of pulmonary disease, we are of the opinion that few American physicians would think of sending advanced cases there, and would expect them to get worse rapidly if they went.

DELAFIELD'S PATHOLOGY.[2]

This double number is a very attractive one, both the text and the plates being of much interest. After a brief account of the peritonæum the author considers its inflammations. He divides them into the acute and the chronic, and subdivides the former into two varieties. In the first, cellular peritonitis, the changes are confined to the endothelium; in the latter, which is the ordinary form, there are changes also in the connective-tissue cells, and fibrine, serum, and pus are produced. We do not feel as confident as the author appears to of any essential difference between the two processes, or that the latter is not an advanced stage of the former. It is impossible to understand why perityphlitis and abscesses shut in in any part of the peritonæum should occasion the first kind, while the second may be caused by abscesses in the liver or kidneys and inflammation of the gall-bladder and biliary passages. The account of the appearances observed in Cohnheim's experiment on the mesentery of the frog is evidently written by one familiar with his subject. The illustrations are excellent, as usual.

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[1] *Colds and Coughs: Their Causes and Consequences.* Notes on Lectures delivered at Gresham College. By E. Symes Thompson, M. D., F. R. C. P., etc. Philadelphia: Lindsay and Blakiston. 1878. Pp. 120. 12mo.

[2] *Studies in Pathological Anatomy.* By Francis Delafield, M. D. Nos. 6 and 7. New York: William Wood & Co. 1878.

LIFE.[1]

"FIRST interrogatory. What is life? An anatomical basis operated by physical law, — this is life. . . . .

"Third interrogatory. What is life's fundamental form and archetype? Life's fundamental form and archetype is an *ellipse*, the big end up, the small end down, after the manner of the earth's orbit or the solar ellipses out of which it is evolved and over which it is modeled. . . . .

"The relegation of social misadjustment to twelve individuals in a jury has a vast analogue in the conservation of the planetary movement through the influence of the Zodiac. . . . .

"The brain and spinal cord constitute a great magnetic needle supported on movable stilts. For illustration, let a dog, cat, or pig suffer removal from home to a considerable distance. Notice the result. The needle gets up at once on movable stilts, straightens out, whirls round to the proper adjustment, and WALKS OFF to the METALS OUT OF WHICH IT HAD BEEN EVOLVED, nor pauses in the journey till it reaches home. It will go no farther than home, whatever may have happened in its absence to him or his. In man the needle stands straight up. IT HAS LOST THE POWER OF ADJUSTING ITSELF. In consequence, he hesitates to send his ten-year-old son away from home; and if himself lose memory, he is lost at a slight remove only; nevertheless he has the strongest local attachments."

We trust that a perusal of the above quotations, which are fair specimens of the author's style, will convince our readers of the impossibility of seriously criticising his work.

FORENSIC MEDICINE.

THERE can be no doubt that a great impetus has been given to the study of this department of medical science by the passage of the law in this State substituting the medical examiner for that much-abused and much-abusing officer the coroner. Happily he is now a thing of the past, and although but little more than a year has elapsed since his departure we have already fallen into the habit of complacently looking upon him as one of those absurdities of a former generation from whose influence we are now fortunately exempt. Among the results flowing from this change of law of most interest to our readers was the formation of the Medico-Legal Society, the objects of which were, according to the second article of its constitution, "to elevate the official character of the medical examiner, and to assist him in the discharge of his duties; to collect and utilize such facts as have a medico-legal value; and to excite a general interest in the subject of forensic medicine, and to promote its successful cultivation." This society consists of active members elected from the ranks of the medical examiners and associate members consisting of physicians and lawyers who are specially interested in this subject. The first volume of the transactions of the society has appeared, a perusal of which will convince the reader that the objects of the society have been carried out most satisfactorily. Its influence cannot fail to be excellent in disseminating a more general knowledge of the law, and in preventing any irregularities in its administration calculated to bring it into disrepute, — a result which would doubtless be hailed with joy by those who prospered under the old system. It has hitherto been and will continue to be the aim of the JOURNAL to aid the society in its efforts to maintain the integrity of the law, and it was in accordance with this spirit that we criticised recently the action of one of the medical examiners. Although the justice of these criticisms has since been called in question, we have ample evidence to show that the provisions of the act were in this case not complied with as they should be. The discussion will serve to impress upon medical examiners the urgent need of a scrupulous observance of the law in all cases, however simple and obvious they may appear.

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[1] *Life.* Advanced Sheets of a New Work on Physiology. By W. H. TRIPLETT, M. D. Washington, D. C. 8vo, pp. 115.

We have a word to say here in praise of the papers which appear in this volume, although they have already been published in the JOURNAL. They show that the society is not only possessed of sufficient talent to justify it in entering the field which it now ventures upon, but that it is eminently qualified to make valuable contributions to forensic medicine. We cordially commend this movement to the attention of other States, and confidently venture the prediction that the success of the new law under the auspices of the new society will eventually drive the obnoxious coroner from the land.

MEDICAL NOTES.

— According to the *Medical Record*, a child under one year of age suffered from repeated convulsions for several weeks. Treatment was of no avail; finally the mother discovered and removed a hair nearly three feet long, which had become caught between two incisors and hung down the throat of the child. The convulsions ceased at once.

— The members of the New York Medical Club were invited to an entertainment a few years ago by Dr. H. D. Paine, of that city, in the following terms: —

"SCIENS, SOCIALITE, SOBRIETE."

"Doctores, — Ducum nex mundi nitu Panes; tritucum at ait. Expecto meta fumen tu te & eta beta pi. Super attento, uno. Dux, hamor clam pati, sum parates, homine, ices, jam, etc. Sideror hoc. Anser.

"FESTO REASONAN FLOAS SOLE."

— A correspondent has called our attention to the following tribute to McDowell, pronounced by Spencer Wells at the close of a recent lecture: —

"The hour is nearly complete, but I cannot conclude without some reference to the man who is justly looked upon as the "father of ovariotomy." McDowell was wise, practical, and prophetic. He carefully studied the subject which filled his mind; did with an enviable success what his opportunities permitted, and looked with an anxious eye on the prospect opening up to his successors. We, more happy in our opportunities, have entered into full possession of what to him was little more than a promised land; and, speaking personally, I feel it my greatest happiness to have been able — chiefly through the encouragement of professional brethren (which at one time I had little reason to anticipate) — to reach the point at which McDowell aimed. It is not given to every one to see the fruit of his labors, but the surest way of gaining that end is by studying the words and following the counsels of wisdom. The wish to do well what others have done is not all that is wanted. Step by step their course must be followed, difficult still, but somewhat easier from the result of experience; and, while I content myself with a warning to aspirants that a fancied inspiration will not alone carry them on to success, I feel that I cannot quit them and the subject better than by repeating the words of McDowell, who, though better known in the open, rugged field of practice than in the paths of literature, was a man of broad and elevated views; and they expressed the advanced opinions he had already formed respecting the operation he had inaugurated after years of patient waiting and zealous preparation. He strove to make ovariotomy a boon to humanity. He had reason to believe it had proved so, but he foresaw the dangers of its abuse from rash and indiscriminate rivalry amongst his followers. Listen to his own words: 'I think my description of the mode of operating and of the anatomy of the parts concerned clear enough to enable any good anatomist, possessing the judgment requisite for a surgeon, to operate with safety. I hope no operator of any other description may ever attempt it. It is my most ardent wish that this operation may remain to the mechanical surgeons forever incomprehensible. Such have been the bane of the science, intruding themselves into the ranks of the profession with no other qualification but boldness in undertaking, ignorance of their responsibility, and indifference to the lives of their patients; proceeding according to the special dictate of some author as mechanical as themselves, they cut and tear with fearless indifference, utterly incapable of exercising any judgment of their own in cases of emergency, and sometimes without possessing the slightest knowledge of the anatomy of the parts concerned. The preposterous and injurious attempts of such pretenders can seldom fail to prove destructive to the patients and disgraceful to the science. It is by such this noble science has been degraded, in the minds of many, to the rank of an art.'

"In conclusion allow me to read a sentence or two from one of those able reviews which make one regret that the day of the medical quarterlies is passed. (*British and Foreign Medical Review*, April, 1873.) 'All honor to McDowell, of Kentucky, who, to use the words of Hufeland, "looked upon his profession as a high and holy office; who exercised it purely, not for his own advancement, not for his own honor, but for the glory of God and the good of his neighbor; and who, long since called to give an account of it, is no doubt reaping the reward of his faithful stewardship."'"

NEW YORK.

— The preliminary courses at the medical schools have been unusually well attended this year. The regular winter session commenced on the first day of October at the College of Physicians and Surgeons, and on the second at Bellevue and the medical department of the University of New York.

At the recent September meeting of the County Medical Society the president, Dr. John C. Peters, announced that the sum up to that time contributed by the members of the society for the relief of physicians and their families suffering from the yellow-fever epidemic amounted to twenty-two hundred dollars, and that the Kings County Society (Brooklyn) had raised five hundred dollars. The hope was expressed that a similar effort would be made by every county society, not only of this but of other States. Dr. Peters stated that, as far as was then known, forty-eight physicians had fallen victims to the fever. Since then a number of others have died, including Dr. G. W. Kibbe, of Ohio, who volunteered his services in the cause of suffering humanity, and whose ingenious fan-cot is now so highly esteemed by Prof. T. G. Thomas and other authorities.

According to the latest advices, upwards of four hundred thousand dollars for the South has been contributed in money by the city of New York, or through the agencies located there. In addition, a large quantity of various supplies have already been forwarded to the affected districts; but now a much more extensive effort is about to be made in the same direction by a special committee appointed for the purpose. After due notice has been given the citizens, wagons will be sent through all the principal streets, in charge of the accredited agents of the committee, for the purpose of collecting all sorts of clothing, as well as mattresses, bedding, towels, and other useful articles; and it is anticipated that the appeal thus made will be most generously responded to. It is stated that large quantities of clothing and bedding have been destroyed to check the spread of the infection, and that unless fresh supplies are forwarded rapidly there will be great distress among the poorer classes, increasing as the weather becomes colder.

A special meeting of the County Medical Society was held September 30th for the purpose of petitioning Congress to pass a law authorizing the president of the United States to appoint a commission of physicians, whose duty shall be, (1) to inquire into the origin, prevention, and control of yellow fever; (2) to suggest such legislation as may be needed to empower the general government to institute measures for the prevention and control of yellow fever.

BOSTON CITY HOSPITAL.

SURGICAL CASES IN THE SERVICE OF DR. THORNDIKE.

[REPORTED BY S. W. FRENCH, HOUSE SURGEON.]

CASE I. *Necrosis of Inferior Maxilla; Removal of half of the Lower Jaw; Recovery.* — Patient, male, aged twenty-three, match-maker by trade, was always well up to three weeks before his entrance, when he had a lower molar drawn.

Subsequently his face commenced to pain him, and on entrance the left cheek was much swollen and painful; pressure upon the cheek caused pus to flow freely into the mouth from the socket of the extracted tooth. The next day after his entrance, Dr. Fifield made an exploratory incision along the inferior border of the bone and found it bare, but there being no signs of a fully formed sequestrum did not proceed further. From this time until February 7th there was a free discharge from the mouth, and from a sinus at the angle of the jaw which opened spontaneously, and the patient's condition was improved by tonics and generous diet.

February 7th, three months after his entrance, the patient being etherized, Dr. Thorndike removed the left half of the inferior maxilla by an incision from the mental foramen along the lower border of the bone to the ear. The incision was prolonged at right angles to the corner of the mouth and the flap laid back. The bone was discovered to be bare along its whole extent, with the exception of a small space at the border, where there seemed to be an attempt to throw out new bone. Two incisors were drawn; the bone was divided by the chain saw at the mental foramen, and then dissected from the periosteum beneath as far as the joint, which was disarticulated by a probe-pointed bistoury. After its removal, a bony plate was felt upon the periosteum beneath. One vessel was ligatured. The wound closed by first intention, except the previous opening at the angle, which remained open for ten days. Three weeks after the operation the patient was discharged, with good movement of the jaw, and by digital examination the remaining tissue seemed to be fast consolidating.

CASE II. *Arterio-Venous Aneurism ; Extirpation ; Secondary Hæmorrhage ; Ligation of Brachial and Vas Aberrans ; Pyæmia ; Death.* — Patient, female, aged nineteen, three years ago first noticed a swelling on the radial side, posteriorly, of left fore-arm, which gradually increased until her entrance, when it had attained the size of a goose egg.

There was some pain in the tumor. Pulsation was identical with the radial pulse at the wrist. Auscultation revealed murmurs of different kinds. Over the centre of the tumor the murmur was of a booming quality, while at the circumference it was musical in character. Compression was tried for a week with the result of an increase in size of the tumor.

Operation, under ether, after the Lister method. Dr. Thorndike, considering the tumor to be of the arterio-venous variety, made a linear incision over it, and divided each layer on the director until the mass of vessels imbedded in muscular tissue was disclosed, and found to be some three inches in length. This was tied at both ends and removed. Edges brought together with carbolic sutures. Twelve hours after the operation an erysipelatous redness was noticed at the edge of the dressing. On opening it, the wound looking moderately well, the same dressing was continued. The second day the redness had extended, and pain was intense. An examination of the wound showed partial first intention, but the discharge being very offensive and the erysipelas extending, a poultice was substituted for the Lister.

Five days after the operation, secondary hæmorrhage occurred at the upper end and middle of the wound, but was controlled with sponges and compress. Two days later, hæmorrhage again occurred through the sponges and compress before applied. This attack was checked by sponges soaked in ferric alum and compression of the brachial. The next day Dr. Thorndike, with Drs. Cheever and Gay in consultation, considered the tying of the brachial to be the only means of preventing further hæmorrhage. An incision was made over the middle third of the brachial artery, and dissection continued until two vessels were reached which united at the middle of the upper arm. The artery was ligated above the bifurcation. The tourniquet being removed, there was still some hæmorrhage from the wound, and a bleeding mass was ligated in the wound, but still, however, did not entirely arrest the hæmorrhage. Further examination showed a large artery running along the inside of the brachial, given off high up above the ligature on the brachial. This was ligated, and the hæmorrhage ceased. The wound was dressed with carbolic wash and the arm was wrapped in cotton batting. Five days after the ligation of the brachial the patient was seized with a chill followed by sweating. The wound was cleaned off. The incision over the brachial did not unite by first intention. For twelve days more, at irregular intervals, there was a succession of chills and sweating. The patient was pale and sallow, and pyæmia was thoroughly established. On the under side of the arm a slough appeared, which separated, leaving a large excavation running up and down the limb. Henceforward the discharge from this sloughing cavity was profuse and extremely offensive. The fœtor, however, was in part suppressed by washing out the cavity twice daily with Condy's fluid. Metallic iodine was kept in the room in a box punctured with holes. There was a second attack of erysipelas. The temperature of the hand of the affected side averaged two degrees lower than that in the axilla. The average temperature in the axilla was 103°, except at the time of the chills, when it rose, at one time as high as 107°, and in three hours dropped to 101°. Great dyspnœa, with cough and purulent expectoration, were present nine days after the first chill. Brandy and quinia were given in large amounts, but the patient gradually failed, became delirious, and died sixteen days after the ligation of the brachial.

The principal causes of the unfortunate course and end of this case seemed to be these: First, the erysipelatous inflammation coming on so soon after the operation, thereby preventing the throwing out of lymph, and necessarily the consolidation and obliteration of the vessels. The erysipelas appeared to be entirely spontaneous, for at the time there were no erysipelas cases in the hospital, and the private ward in which the patient had her room had never seen a case of the disease.

Secondly, an anomalous branch of the brachial, which on consulting Quain's Anatomy seems to have been an aberrant artery, given off by the brachial or axillary, and joining either of the arteries of the fore-arm. In the case in point it seemed to have joined the radial. Quain, however, gives the course of this artery on the front of the arm, whereas in this case it was given off high up, then ran along the side of the brachial to the bifurcation, and there diving down reappeared on the back of the arm, joining, no doubt, the radial farther down. Quain states that in eight out of nine cases observed it joined the radial, and in the remaining case it united with the radial recurrent, which arose irregularly from the ulnar artery. Monro and Meckel have each seen one case in which the aberrant vessel joined the ulnar.

LETTER FROM PHILADELPHIA.

Mr. Editor, — Dr. Washington L. Atlee, whose failing health for the last few months we deplored in a former letter, died at his home in this city on the 7th of September, from malignant disease of the left kidney, at the ripe age of seventy years. Last May Dr. Atlee operated upon three cases of ovarian tumor in three different places, on successive days, traveling night and day to accomplish the feat. He was completely exhausted on his return, and had never been well since that time, although in good health previously. One of them was a case of malignant disease, and it is perhaps significant that he was soon afterward seized with symptoms of renal cancer, which caused his death. At special meetings of the Alumni Association of the Jefferson Medical College and of the Philadelphia County Medical Society resolutions were passed testifying to his energy, perseverance, and great ability in his special department of surgery. Professor Gross on both occasions spoke in feeling terms of a friendship which dated back to the year 1826, when they were fellow-students in Philadelphia in the office of Dr. George McClellan, the founder of the Jefferson Medical College. During a professional career of nearly half a century, Dr. Atlee, by the force of his innate worth and untiring industry, rose from the station of a country practitioner to become one of the acknowledged leaders of the profession. In offering the resolutions Professor Gross paid a glowing tribute to the private character and professional skill and services of Dr. Atlee, especially in the operation of ovariotomy, his cases at the time of his death amounting to nearly four hundred. His unwavering integrity, devotion to principle, and untiring efforts for the advancement of American medicine were declared to be worthy of all emulation, more particularly by the younger members of the profession.

Dr. Atlee was the author of a work on ovarian tumors, which has become classical from the amount of original research and experience which it embodies. He was also a frequent contributor to the medical journals, to the proceedings of the American Medical Association (of which he was the vice-president), and to those of the Pennsylvania State Medical Society and the Philadelphia County Medical Society, each of which associations he had been instrumental in organizing and establishing. Graduating from the Jefferson Medical College in 1829, Professor Atlee practiced medicine in Lancaster, Pa., his native place, until he was called, in 1844, to this city, to occupy the chair of professor of chemistry in the medical department of the Pennsylvania College of Philadelphia, which is no longer in existence. For the last thirty-four years he has been a resident of this city, to whose reputation as a medical centre he greatly added by his originality, skill, and devotion to his profession.

Turning to our medical colleges, we notice that the attendance upon the preliminary course of lectures (which began on the first Monday in September at Jefferson, and on the succeeding Monday at the University of Pennsylvania) shows a decided increase over last year at both schools. This gratifying, but at this early period somewhat unexpected circumstance demonstrates the fact that students recognize and appreciate the efforts made in the direction of improved medical education, particularly in the gradual lengthening of the term, which admits of more thorough teaching. Within the memory of some, who are not necessarily the oldest inhabitants, our colleges were opened only during the four winter months, and then were closed for the rest of the year; now, lectures are delivered for ten consecutive months, and daily clinics held all the year round. It is very evident that all American medical colleges which desire to maintain their position as classical institutions must soon yield to the advance of public opinion, and adopt a graded course. The friends of the new *régime* at the University of Pennsylvania declare that the changes that were instituted last year have been favorably met, and that the classes are steadily increasing.

At the last meeting of the State Medical Society resolutions were presented by a committee, and subsequently adopted, recommending the members of the society to send their students to those colleges which give a three years' course of study. Another series of resolutions was passed, which directs the various county medical societies to appoint examining committees, before whom any person desirous of studying medicine may appear, and give satisfactory evidence of possessing a sufficient English education, and forbids any member to receive a student who has not a proper certificate from such a committee. Some such official supervision is urgently needed for the protection of the public in a great measure from being victimized by encountering criminal ignorance and incompetency in the ranks of the regular profession; it may act to effectually prevent, among other abuses, the graduation of boys of not more than seventeen years of age, which has sometimes happened at otherwise respectable colleges.

The recent disgraceful occurrences in Cleveland and Cincinnati have invited general attention to the management of medical schools, and it may be found at an early day that public opinion will demand the passage of a law regulating dissecting similar to that adopted in England in 1832, by which no professor or student of medicine can practice anatomy without previously obtaining a license. Medical colleges by its provisions are also put under the supervision of inspectors, who furnish a quarterly report to the government of all the anatomical examinations occurring in their district, giving in each case the sex, name, and age of the subject.

The new building for the dental department and laboratory of the University of Pennsylvania, on the grounds of the institution in West Philadelphia is rapidly approaching completion, and was expected to be ready for occupancy by the first of next month, although it can scarcely be finished by that time. As may be expected, it will be complete in all its appointments, and will contain conveniences for laboratory work under the direction of Professor Wormley. One peculiarity of the edifice will be the absence of lath and plaster from its interior, it being finished in natural woods and iron.

The Pennsylvania Dental College has removed to their new quarters in a five-story building on Twelfth Street, below Arch, at the corner of Filbert. They have now a fine, airy dissecting-room, two large lecture-rooms, two commodious operating-rooms, a laboratory, museum, and all the other appointments needed fully to equip a Philadelphia dental college that has already contributed so much to give to this city its reputation as a centre for instruction in dentistry. The Philadelphia Dental College at Tenth and Arch streets is also doing a good work in the same direction. The course of winter lectures commences at each of these institutions, as it does at our purely medical schools, on the 1st of October. F. W.

SHORT COMMUNICATIONS.

FRACTURE OF THE HUMERUS BY MUSCULAR ACTION.

BY T. B. CURTIS, M. D.

Fractures caused by direct muscular action are comparatively rare, if we exclude those cases in which the bones are so weakened by disease (rickets, cancer, etc.) as to become the seat of what is improperly called "spontaneous fracture." In health the bones are generally strong enough to resist any strain which the muscles are capable of bringing to bear upon them, for the exercises which develop the muscular system serve also at the same time, *pari passu*, to strengthen the bones. Certain of the long bones, however, when suddenly subjected to a violent torsion, or twisting wrench, are liable to give way at their weakest point. The following case is an instance of fracture produced by the mechanism of torsion, by direct muscular action: —

Case. A man fifty-four years old, in good bodily health, and somewhat muscular, although not athletic, was amusing himself with a friend at a trial of strength. Standing opposite one another, each with his right elbow flexed resting on a counter, they locked hands, palm to palm, and each tried to force down the other's hand. Just as the struggle for the mastery reached its climax, my patient felt and heard a sudden snap, and all resistance on his part ceased. I saw him soon afterwards, and found a transverse fracture of the humerus, about three inches above the elbow, with free mobility in all directions, and crepitus. There was evidently no overlapping, for the ends of the fragments could not be felt, and there was no shortening by measurement. I applied a tin internal angular splint and three short coaptation splints. The apparatus was worn for thirty-five days, at the end of which time firm union was found. So neatly had the repair taken place that no trace of the solution of continuity could be detected. At this day it would be very difficult to make out by examination which humerus had been broken.

Remarks. Fractures by this mechanism, occurring under precisely the same circumstances as in my case, though rare, have long been known, the earliest instance having been recorded by Debeaumarchef. Malgaigne[1] adduces five cases, of which one was seen by himself, to which Gurlt[2] has added six cases. The mechanism of the fracture is perfectly explained by Malgaigne. The adversary strives to enforce passive supination and extension of the patient's wrist, together with eversion of the arm. In the effort to resist passive supination and extension of the hand, the pronator and flexor muscles, which are all attached to the internal condyle of the humerus, are strongly contracted. To resist passive outward rotation of the humerus, on the other hand, all the muscles producing inward rotation (anterior portion of the deltoid, latissimus dorsi, teres major, pectoralis major, subscapularis, and supra-spinatus) are brought into play. Between the two sets of muscles tending to rotate the humerus in opposite directions — its lower end being twisted *dextrorsum* (that is, in the direction of the hands of a watch), while the upper end is twisted *sinistrorsum* — the bone undergoes a torsion, which causes it to give way. The fracture so produced seems to have constantly the same seat and direction. It is situated about three inches above the condyles, and is transverse, without overlapping.

Fractures of the arm have several times occurred in the act of throwing.[3] In this case the fracture has been attributed to the forced bending of the bone at the point of fracture, resulting from the forward projection of the lower end of the humerus, while the upper end is suddenly held back by the contraction of the deltoid. This explanation, proposed by Double, is accepted by Malgaigne. I believe, however, that the mechanism of the fracture which occurs in the act of throwing is precisely similar to that described above, and that the break is occasioned in this case also by the torsion of the bone. This view, which was suggested by Bellamy, without any explanation of the mechanism by which the torsion is effected, can, I think, be substantiated by an analysis of the phenomena involved. Among the complex and rapid movements which go to make a correctly executed throw, the most important and characteristic is the violent jerk or snap which is effected by means of a sudden transition from a primary attitude involving supination of the wrist, flexion of the elbow, and outward rotation of the arm, to a secondary attitude of pronation, extension, and rotation inwards. Pronation of the wrist and inward rotation of the arm are accomplished at one and the same instant with all the energy of which the muscles are capable. The two ends of the humerus are thus violently twisted in opposite directions, and the bone gives way to the torsion so effected. It is this succession of complicated movements which gives the force and accuracy with which the throw is accomplished. To effect it a particular knack is requisite, which women seem radically incapable of acquiring, and which in right-handed individuals is lacking in attempts to throw with the left hand.

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[1] Malgaigne, Fractures et Luxations. Paris. 1847. Page 531.

[2] Gurlt, Knochenbrüchen. 1862. Vol. i., page 236.

[3] F. H. Hamilton, Fractures and Dislocations. 1875. Page 30. Malgaigne, loco citato. E. Bellamy, Lancet, May 11, 1878, page 699.

CIRCULAR OF THE NEW ORLEANS BOARD OF HEALTH.

We give the following extracts from a circular at present issued in New Orleans, indicating the modes of treatment of yellow fever: —

The onset is more apt to be sudden and violent than that of the other fevers which prevail here, and more apt to occur at night. Frequently, but not invariably, a chill precedes the fever. There is violent pain in the forehead at the beginning, soon followed by severe pain in the lower part of the back. The eyes are red and glistening.

Any individual affected as above described should immediately go home, go to bed, and send for a physician without delay. Without waiting for his arrival a hot foot-bath should be taken, and perspiration encouraged by warm drinks and a moderate cover in bed. If there should be any delay in the arrival of the physician, a simple purgative should be taken, and if the attack comes on soon after eating, an emetic of ipecac or mustard would be advisable. Prompt treatment is of the utmost importance in this disease, and it should be understood that persons ought not to walk about after falling sick, nor get up at all after once going to bed, until the attack is over.

Those who have not had the fever should avoid localities known to be infected, and should stay in their houses as much as possible during the night. Preventive medicines are useless, and free alcoholic potations are the worst preparation for encountering the fever. Regular habits, tranquillity of mind, and moderation in all things should be observed.

It is recommended that all articles of clothing taken from a patient's person and bed be put in a five per cent. solution of Calvert's No. 5 carbolic acid. All discharges from a patient's body should also be treated with carbolic acid, together with any articles soiled by the same. As a further precaution, and to aid the board of health in their efforts, it is recommended to all householders, as far as they are able to do so at their own expense, whether there be cases of yellow fever on the premises or not, to disinfect their privy vaults and drains, and also the street gutters. A suitable agent for this purpose, being both efficient and economical, is a solution of copperas and carbolic acid in water, in the proportion of three pounds of copperas and one half pint of Calvert's No. 5 carbolic acid to a bucket of water. In case Calvert's No. 5 cannot be obtained, Page's crude acid may be used, — one half pint in a bucket of water thoroughly stirred up.

The public generally are earnestly dissuaded from attending the funerals of yellow-fever patients, unless circumstances imperatively demand it.

The stomach should be observed frequently, with special reference to nausea and tenderness under pressure. Other warnings of black vomit are great restlessness, sighing respiration, and hiccough. With the occurrence of these symptoms, which do not usually precede the subsidence of the fever, apply a fly-blister to the epigastrium, and give ice, with brandy or champagne wine, if the pulse should be weak.

During the course of the fever all nourishment should be withheld. On its subsidence it should be carefully resumed, in the smallest quantities, frequently repeated, and altogether liquid at first.

Alcoholic preparations are almost invariably demanded after the fever abates. The kind best relished by the patient should be selected, and used in small quantities, diluted and frequently repeated. Thus it serves as food rather than stimulant.

The above plan of treatment is mainly expectant, and is to be supplemented for special indications as they may arise. Extreme restlessness might justify the use of chloral by enema; but opium should never be resorted to after the first twelve hours. Severe headache with a strong pulse, in a robust subject, would justify local blood-letting at an early stage. On the occurrence of black vomit such hæmostatics as ergot, subsulphate of iron, and gallic acid might be exhibited.

Many physicians, myself included, are in favor of giving twenty to thirty grains of quinine (with the addition of twenty to thirty drops of laudanum or Battley's sedative) at the very beginning of the fever, in two doses, at four hours' intervals, with the view of mitigating the neuralgic symptoms and promoting perspiration. This medication allays pain, promotes perspiration, quiets the patient, and allows him to enter the second stage of the disease in a much better condition. A few make use of special remedies, with a view to counteract the poison in the system or aid in its elimination, but such medication is regarded as only experimental, and is not recommended. SAMUEL CHOPPIN, M. D.,

President Board of Health.

DEATH OF DR. J. R. WILBUR.

JOHN RECORD WILBUR, M. D., died at his residence in Chicopee Falls, Mass., September 7, 1878, of fatty degeneration of the heart, after a final illness of two weeks. Dr. Wilbur was born in Leydon, Mass., in 1817, where he received his preliminary education, and graduated at the Berkshire Medical College in 1842. Soon after he settled in the village where he died, and where (excepting an absence of some two years in attendance upon hospitals and lectures in New York) he has spent thirty-three years in constant professional service. He was one of the earliest members of the Hampden District Medical Society, having joined in 1845. He left no children, but a most excellent and devoted wife, to whom he was married late in life.

LETTER FROM DR. BARRETT.

MR. EDITOR, — It is not true that in any manner I mistook the duties of the medical examiner, or assumed any legal functions of judge, and rendered any verdict in the case of William Martin the convict. The statements and inferences in the Concord *Freeman* and Boston Medical and Surgical Journal are founded on misinterpretation and want of due inquiry and information, and seem intended to do me great injustice.

I was called, August 22d, to view the dead body of William Martin, the convict in the state-prison. I carefully examined the body, made personal and particular inquiry, and ascertained all the facts in the case, as the law requires; and as the law requires I *at once* forwarded by mail to the district attorney notice of the death, the declarations of the officer, who said he fired the shot in self-defense, and all the facts in the case. I also added, as it was my duty to do, that I deemed further examination unnecessary, meaning of course, on my part, that an autopsy was unnecessary. I gave a certificate of death to the registrar, as required.

As the law is susceptible of varied construction, I have taken especial pains to consult one or more lawyers or the district attorney in every case, and for certain good reasons I took time to have a friend make personal inquiry of the district attorney in this case. I then gave notice to the judge of the district court of Central Middlesex.

I conjecture that the news gatherer for the Concord *Freeman* picked up some items of my notice to the district attorney, and had no proper conception of the meaning of it, and that extended inferences and assertions have been made in the Concord *Freeman* and Boston Medical and Surgical Journal from his simple and incorrect report.

When I submitted the case to the district attorney, with all the facts, *at once*, for legal investigation, it is foolish to suppose I assumed any functions which belonged to another officer of the law. Yours very truly, HENRY A. BARRETT.

CONCORD, *September* 26, 1878.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XIII.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, *October* 5, 1878.

NEW ORLEANS. — During the past week there were 1754 cases of yellow fever and 360 deaths. Total cases to yesterday afternoon 10,218, total deaths 3060.

SOUTH WEST PASS, LA. — Five deaths from yellow fever occurred during the past week.

MORGAN CITY, LA. — For the week ended yesterday evening there were 155 new cases of yellow fever and 18 deaths. Total cases 300, deaths 48.

BATON ROUGE, LA. — During the week ended nine o'clock yesterday morning there were 524 new cases of yellow fever and 32 deaths. Total cases 1417, deaths 78.

PLAQUEMINE, LA. — Two hundred and forty-two cases of yellow fever and 10 deaths occurred during the week ended September 21st. Total cases to that date 547, deaths 63.

PASS CHRISTIAN, MISS. — There were 26 cases of yellow fever and three deaths during last week. Total cases 59, deaths 6.

MISSISSIPPI CITY, MISS. — Twelve cases of yellow fever and two deaths occurred last week. Total cases to yesterday evening 20, deaths three.

CANTON, MISS. — Total cases of yellow fever to the 4th inst. 720, total deaths 113. Dr. Semmes reports fever milder and material nearly exhausted.

OCEAN SPRINGS, MISS. — There were 18 cases of yellow fever and four deaths during the week ended yesterday. Total cases 78, deaths 22.

PASCAGOULA, MISS. — One death from yellow fever at quarantine last week.

MOBILE, ALA. — For the week ended yesterday evening there were 13 cases of yellow fever and six deaths. Total cases 30, deaths 17. Dr. Cochran reports yellow fever at Bonsecour and Fish River.

VICKSBURG, MISS. — There were 70 deaths from yellow fever during the week ended yesterday evening. Total deaths, 849.

MEMPHIS, TENN. — One hundred and ninety-nine deaths from yellow fever occurred during the week ended the 3d inst. Total deaths to that date, 2627.

BROWNSVILLE, TENN. — During the past week there were 77 cases of yellow fever and 20 deaths. Total cases to yesterday evening 274, deaths 86.

GRAND JUNCTION, TENN. — The first case of yellow fever (refugee) occurred August 12th. Total cases to yesterday evening 120, deaths 52.

CHATTANOOGA, TENN. — Forty-three cases of yellow fever and 18 deaths for the week ended yesterday evening. Total cases 84, deaths 44.

LOUISVILLE, KY. — During the week ended yesterday evening there were seven cases of yellow fever and five deaths. Of these, five cases and three deaths were among the inhabitants residing near the Louisville and Nashville depot. No alarm exists, as it is believed there that the fever will not spread beyond its present narrow limits. The small number of cases appear to warrant that belief. Total cases to date 102, mostly refugees, as previously reported. Total deaths, 41.

NASHVILLE, TENN. — Six deaths from yellow fever to yesterday evening, all refugees.

ST. LOUIS, MO. — Two deaths from yellow fever at quarantine since last report. None in the city. Total deaths at quarantine and city, 41.

CAIRO, ILL. — Three cases of yellow fever and one death since October 2d. Information covering the first part of last week not definite enough to state here.

CINCINNATI, OHIO. — From September 28th to October 2d there were two cases of yellow fever, one a refugee, and one death.

GRENADA, MISS. — Eighteen cases yellow fever under treatment. Number of deaths not definitely ascertained.

WATER VALLEY, MISS. — For the week ended September 28th there were 18 cases of yellow fever and 10 deaths. Total cases to that date 39, deaths 17.

KEY WEST, FLA. — No cases of yellow fever or deaths from September 21st to October 4th.

HAVANA, CUBA. — Thirty-six deaths from yellow fever, and six from small-pox for the week ended September 28th.

The British iron steamship, Ben Vairlish, from New Orleans, September 20th, bound for Rotterdam, put in to the Norfolk quarantine October 1st leaking badly, having been on the Florida reefs 36 hours. One death from yellow fever occurred *en route,* and there were three cases on arrival at quarantine, two of which were convalescent.

ST. THOMAS, WEST INDIES. — Advices to September 24th report two cases of yellow fever in that city; one resulted in death September 23d.

Advices from Gibraltar to September 10th bring favorable reports from Morocco, where cholera has prevailed in the cities of Fez and Mequinez. The governor of Malta has ordered that vessels arriving from Morocco without passengers be quarantined 21 days. Vessels with passengers among whom cholera or choleraic diarrhœa has occurred are not allowed to enter the harbor.

CALCUTTA. — Eleven deaths from cholera, week ended August 3d.

BOMBAY. — Thirty-one deaths from cholera, week ended August 13th.

There are many places in Louisiana, Mississippi, and Tennessee where the yellow fever prevails, but they are not named in this bulletin for the reason that definite and reliable information of the number of cases and deaths could not be obtained.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Sept. 28, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	501	23.83	23.42	28.71
Philadelphia.	876,118			18.80	21.54
Brooklyn.	549,438	217	20.54	21.51	25.50
Chicago.	460,000	131	14.81	17.83	22.39
Boston.	375,476	134	18.56	20.10	24.34
Providence.	100,000	30	15.60	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	20	18.94	20.06	22.30
Cambridge.	53,547	12	11.65	18.69	20.83
Fall River.	53,207	20	19.55	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	9	13.78	16.02	19.77
Salem.	27,140	10	19.16	20.38	21.15

NOTICE TO CONTRIBUTORS.

The present crowded state of the pages of the Journal makes it important that the greatest economy of space should be practiced by contributors. In order that too great a portion of one number shall not be given to one subject it will be necessary in future to divide all articles over eight printed pages in length. Secretaries of societies are requested not to exceed six pages in preparing their reports. They, as well as all writers, are particularly requested to adopt, in the headings of articles, the customary style, giving title, etc., exactly as it is to appear. Communications should be written in ink, in a readable hand, on one side of a sheet, and in conformity with the rules of English grammar. — Ed.

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Medical Society of Virginia. — The ninth annual session of the society will convene in the hall of the House of Delegates, in the city of Richmond, Va., at 7.30 p. m., Tuesday, October 22, 1878. Dr. M. G. Ellzey, of Blacksburg, Va., will deliver the Annual Address to the Public and Profession. The president, Dr. John Herbert Claiborne, of Petersburg, Va., will deliver the President's Address. Committees on the various departments of medical science are expected to report on the second day. Drs. Lewis A. Sayre, of New York city Robert Battey, of Rome, Georgia; George T. Harrison, of New York city; B. P. Anderson, of Colorado Springs, Colorado; H. T. Bahnsen, of Salem, N. C., and a number of other visitors and delegates are expected to attend the session. Dr. Battey has promised the report of a case of Occlusion of the Entire Utero-Vaginal Canal following Labor, with Distressing Sequelæ of Unrelieved Menstrual Molimen; Battey's Operation; Cure; Remarks. Dr. Harrison has promised a paper on the The Treatment of Puerperal Fever, as deduced from the Modern Views of its Pathogenesis and Ætiology. Dr. Anderson has also promised one relating to the Influence of Colorado Climate upon Health and Disease. The subject for discussion — open to all Fellows and delegates — is the Ætiology of Typhoid Fever.

Arrangements have been effected with a number of leading surgical instrument makers, pharmaceutical manufacturers, etc., for an exhibition of their goods in the central spacious hall of the Capitol building.

The recording secretary has effected the following terms with railroad and boat lines in the State: Atlantic, Mississippi, and Ohio Railroad, full fare coming and half fare returning, — return tickets to be bought at Petersburg or Burkeville; Petersburg Railroad (from Petersburg, Va., to Weldon, N. C.), full fare coming and free return; York River Railroad, full fare coming and free return; James River Steamboat Company, full fare coming and free return. Every other railroad or boat line in the State known to the secretary has been solicited, but no other favorable replies have been received.

The following reduced rates at the several leading hotels in the city have also been secured during the session of the society, — all within three or four minutes' walk of the place of meeting: St. James Hotel, southeast corner of the Capitol Square, from $1.50 to $2.00 a day, according to the room selected; American Hotel, corner of Main and Twelfth streets — one half square southeast of the Capitol Square, — $1.50 a day; Exchange Hotel and Ballard House, Franklin and Fourteenth streets, one square and a half east of the Capitol Square, $2.00 a day; St. Claire Hotel, northwest corner of the Capitol Square, $1.50 a day; and Ford's Hotel, immediately north of the Capitol Square, $1.50 a day.

Dr. J. Grattan Cabell is chairman of the *local* committee of arrangements.

Wm. W. Parker, M. D., *Chairman Executive Committee, etc.*, Richmond, Va.
Landon B. Edwards, M. D., *Recording Secretary, etc.*, Richmond, Va.

Books and Pamphlets Received. — A Guide to the Practical Examination of the Urine. By James Tyson, M. D. Second Edition, revised and improved. With Illustrations. Philadelphia: Lindsay and Blakiston. 1878.

Transactions of the Massachusetts Medico-Legal Society. Vol. I. No. 1. 1878. Cambridge: Riverside Press. 1878.

The Prevention of Disease, Insanity, Crime, and Pauperism. A Paper read before the Conference of Charities at Cincinnati, May 22, 1878. By Nathan Allen, M. D. Boston. 1878. Pp. 25.

THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

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LECTURES.

CLINICAL LECTURE ON FACIAL PARALYSIS.

BY WILLIAM A. HAMMOND, M. D.,
Professor of Diseases of the Mind and Nervous System in the Medical Department of the University of the City of New York.

Gentlemen: You all, no doubt, recognize this man as the patient who was before us on the occasion of our last clinic, suffering from very marked facial paralysis, and I think you cannot fail to be struck with the very remarkable improvement noticeable in the case, although he has been under treatment for only a week. This treatment, you will remember, consisted of the local application of electricity and the internal use of strychnia in gradually increasing doses. He commenced with ten drops of a solution of strychnia (there being about one fortieth of a grain of the drug in each dose), and took two drops more each day, until he is now getting twenty-two drops, or about one twenty-fourth of a grain of strychnia. To-day he tells me for the first time that he is beginning to experience some stiffness in the muscles, and this shows that we are getting the physiological effects of the drug which it has been our design to obtain.

The great improvement is shown here in a variety of ways. He can now elevate the eyebrow and forehead on the affected side, which was before impossible. He can close the eye and wink with perfect ease. He can retract the angle of the mouth, spit, smoke, and even whistle after a fashion, though he does not succeed in making very much noise. When he speaks the mouth is no longer drawn to the opposite side, and he is not troubled at all with the accumulation of food between the gums and cheek when he eats. Under the old-fashioned methods of treating facial paralysis it generally takes at least a month to cure a case, and sometimes the patient never perfectly recovers; but if the plan here practiced is adopted, any ordinary case can be entirely cured within a fortnight at most. Of course, you will understand that I am not referring to paralysis depending on intracranial disease, which is a much more serious matter.

Let us glance for a moment at the anatomical course and distribution of the facial nerve, or the portia dura of the seventh pair, in order that we may be able to locate the lesion in any case of paralysis affecting it. Arising from the floor of the fourth ventricle, it passes forwards and outwards upon the crus cerebelli to the internal auditory meatus, at the bottom of which it enters the aqueductus Fallopii. The course of this it follows through the petrous portion of the temporal bone, and then emerges at the stylo-mastoid foramen, after which it passes through the parotid gland, and behind the ramus of the lower jaw becomes divided into two great branches. These are the temporo-facial and the cervico-facial, and from them are given off the numerous smaller branches which supply the superficial muscles of the side of the head, face, and upper part of the neck. Now, if the lesion producing the paralysis is situated at the origin of the facial nerve, or somewhere along its course, posterior to the point where it gives off the chorda tympani (about a quarter of an inch before it emerges from the aqueduct of Fallopius), we shall find that the sense of taste is blunted, and if we examine the fauces it will be seen that the arch of the soft palate on the affected side is decidedly flattened, while the other one retains its natural curve. The taste is not absolutely abolished, but is diminished in acuteness, and this is unquestionably due to the paralysis of the chorda tympani, although the precise manner in which this nerve takes a share in the exercise of the sense of taste is still a matter of discussion among physiologists. The flattening of the palatine arch is due to the fact that at the point of its exit from the stylo-mastoid foramen the facial sends off a twig which communicates with the glosso-pharyngeal nerve. In addition to these two symptoms, there will be paralysis of all the facial muscles. Again, if the lesion be located at the point of exit, or immediately before it emerges from the stylo-mastoid foramen, the sense of taste will remain unchanged, but the flattening of the palatine arch will be observed, as in the preceding case. Besides this flattening of the arch, I may mention that there is sometimes a deviation of the uvula towards the unaffected side.

But if, on the other hand, the nerve is affected after its point of exit from the aqueduct of Fallopius, neither of these phenomena will be observed. In the present instance there has been merely the paralysis of the facial muscles, without any interference with the sense of taste or flattening of the palatine arch, and therefore we know that whatever the trouble has been it must have been located exterior to the stylo-mastoid foramen. This is an important point to determine, and hence in all cases of facial paralysis it is advisable to test the sense of taste by placing a drop or two of some pungent fluid, like vinegar, on the corresponding side of the tongue,when, if the chorda tympani is involved, its taste will be perceived by the individual only after a considerable interval, and in a very imperfect manner.

Since the man was here last week I have made six applications of electricity to his face. At each sitting I would commence with the primary current, placing one pole of the battery just in front of the ear, and carrying the other to all the facial muscles in turn. Then the faradic current would be employed in the same way. Every one of the muscles was paralyzed in this case, and you can now see how great has been the improvement in all of them.

Without the assistance of electricity any treatment of facial paralysis whatever is almost inert. The improvement has already been so marked in this case that I will venture to say that in three days more the man can safely be dismissed entirely. One of the chief difficulties that the patient had at first was to chew his food properly. He was constantly liable to bite his cheek, and he would be obliged frequently either to put his finger in his mouth and take out the food which had got in between the cheek and the gums, or else to make continual pressure with the hand upon the outside of the cheek, in order to prevent it from getting into that position. This feature of facial paralysis is due to the affection of the buccinator muscle, one of the offices of which is to keep the food in contact with the molar teeth during mastication; and, as we have seen, it has now entirely disappeared in the present case.

The way of treating such cases until recently in vogue was to apply a blister behind the ear, and then let the patient alone, or perhaps give him iodide of potassium, the iodide of potassium being a sort of "omnibus medicine," which a great many practitioners are in the habit of prescribing in any case which they do not know very much about. If there were a tendency to gout or rheumatism in the patient, colchicum would be substituted for the potassium. For internal administration, however, there is nothing of half so much service as strychnia, and, as has been done in the present case, it should be given in constantly increasing doses until the physiological effects of the drug are shown. Here the dose of the strychnia solution will be carried up to twenty-four drops to-morrow, and it is quite probable that after that date the patient will not require any further medication. In case that he should, however, I will then commence at ten drops again, and gradually increase the dose in the same manner until the cure is complete.

After treatment by the old method it was not infrequently found that there was a certain amount (though perhaps but a trifling degree) of paralysis remaining permanently. Now, although this slight partial paralysis might make no particular difference to a man, it would certainly be a matter of no small importance to the fair sex, in whom, after all that is said, their faces are generally their fortunes, and to whom it would certainly be a misfortune of no small magnitude not to be able to use the face to the best possible advantage. Happily, by the plan of treatment which has here been employed, and which I can confidently recommend to you, such a melancholy result can always be avoided, unless the facial paralysis is dependent on some serious lesion.

RAPID LITHOTRITY.

BY J. COLLINS WARREN, M. D.

THE new method of treating stone devised by Dr. Bigelow has been received with so much interest in this country that I venture to report the following case as one peculiarly illustrative of its great advantages: Mr. N., a stout, ruddy Englishman, fifty-four years of age, sought my advice in November last. He had always enjoyed good health until March, 1877, when he first began to notice that driving into town to his business, as had been his custom for many years, caused pain in the end of the penis, so that he was soon obliged to give up his carriage, and use the horse-cars. Pain, however, was now felt on passing water, and micturition became frequent, obliging him to rise once or twice in the night. These symptoms had continued, but his general health had suffered little. An examination of a sample of urine showed a considerable sediment of mucus, pus cells, triple phosphate crystals, and bladder epithelium. Owing to a somewhat large prostate it was difficult to introduce a sound, but this was accomplished after attempts with one or two instruments of different shape, and stone was detected. His temperature rose the next day to 103° F., and continued high for three days, obliging him to keep his bed. Under appropriate remedies, however, the disturbance soon passed off. Business matters intervening, the operation was postponed, and from this time until the latter part of February I lost sight of my patient, when he reappeared, looking much altered and emaciated. It seems that he had been confined to the house a short time previously, at his residence in the country, for several weeks by a stoppage of water, followed at intervals by the passage of seven calculi from the urethra. Several of these had evidently remained for some time in the passage, the water being drawn by a small bougie catheter. The smallest of these stones measures in its shortest circumference 25 Charrière's filière, and the largest 31 Charrière. He was still suffering from partial retention, and a subsequent examination showed that a calculus was impacted in the prostatic portion of the urethra. This could be felt by the finger passed into the rectum, and was thus readily dislodged and pushed back into the bladder. The urine was examined again, and found to contain not only the sediment mentioned before, but also hyaline and granular casts, and to be albuminous.

The patient was ordered to keep quiet in bed, was put on milk diet, and the bladder was washed out with a solution of borax, and buchu and citrate of potash were administered. After ten days of this regimen the operation was performed on March 3d.

Dr. Bigelow's method was followed as closely as possible. A moderate-sized lithotrite was found to be sufficiently large to crush the stone, which was soft and proved phosphatic. The tubes used for evacuation were 31 Charrière in size, and slightly curved at the extremity. The crushing process was repeated four times, and was followed as often by the use of the evacuating apparatus, the bladder being sounded each time with a Thompson's searcher for any remaining fragments, until none could be felt. The duration of the operation was two hours, the patient being kept profoundly etherized during the whole of the time. The amount of stone thus extracted was found to weigh, when dried, one hundred and fifty-eight grains; some of the fragments were of considerable size, one of these pieces, of a jagged, triangular shape, passing through nothing smaller than a 23 Charrière's filière; during the following week the urine was carefully strained, and fourteen and one half grains of gravel were obtained, about half of this weight being made up by a nucleus which had escaped detection at the time of the operation, and was passed with the first subsequent evacuation of urine. Convalescence after the operation was uninterrupted and rapid. On the same evening the temperature rose as high as 100.2° F.; for two evenings subsequently it touched 100° F., but from that time on was normal. There appeared to be no constitutional disturbance whatever. He was kept in bed six days, and on a milk diet as a matter of precaution, and was then allowed to get up and have full diet. Three days later the bladder was searched carefully for stone, but no trace was discovered. The urine was examined once on the sixth day, a trace of albumen being found, but no casts.

The patient was seen several months afterwards, was enjoying good health again, and was very much gratified with the result of the operation. This case is a fair example of the advantages of the method now known as "rapid lithotrity with evacuation." A corpulent, plethoric man with a large prostate shows a tendency to constitutional disturbance if the bladder is meddled with. Later he presents himself with an impacted calculus, signs of kidney complication, and a physique much impaired by his disease. Lithotomy was hardly to be thought of in such a subject. Lithotrity might bring on, in already irritated urinary organs, cystitis, with grave complications. This danger was foreshadowed by the febrile condition following sounding. No operation could have caused less disturbance than the one employed, which showed that a two hours' manipulation of the bladder with instruments produced less reaction than the preliminary examination.

This case would probably have been well suited for the operation known as Litholapaxy, that is, evacuation without crushing. It is likely that few of the calculi would have been too large to pass 31 Charrière, Dr. Bigelow's largest-sized evacuating tube.

RECENT PROGRESS IN MENTAL DISEASES.

BY THEODORE W. FISHER, M. D HARV.

CAUSES.

Intemperance. — Dr. Whitcomb, of the Birmingham Asylum, Eng., finds [1] that of 3800 pauper lunatics 525, or one seventh, had their insanity attributed to intemperance. In the same period, of 764 private patients, 142, or one fifth, had the same cause assigned. In this estimate all doubtful cases were excluded. In fifty-five asylums the past five years, out of 33,527 patients admitted, in 3172, or one seventh, the insanity was said to have been due to intemperance. Dr. Nasse, at the Andermat Asylum on the Rhine, finds [2] insanity due to alcohol in 27.7 per cent. of males and 1.63 per cent. of females. Of 160 cases there were of melancholia 42, mania 54, dementia 16, general paralysis 20, and the insanity peculiar to alcoholism, with delusions of persecution and hallucinations, 28 cases.

The following authorities give different percentages, according to their different experience or sources of information: [3] Dr. J. Crichton Browne, West Riding Asylum, 15 per cent.; Dr. Arthur Mitchel, commissioner of lunacy, Scotland, 19 per cent.; Dr. B. W. Richardson, London, 40 per cent.; Dr. Sheppard, Colney Hatch, 40 per cent.; Dr. Mould, Lancashire, 15 per cent.; English lunacy commissioners,[4] 15 per cent. of 66,800 cases; Dr. Contesse, Bicêtre, Paris, 25 per cent.; Dr. Earle, Northampton, 15 per cent. of his admissions the past year.

Heredity. — Dr. Savage gives statistics from the Bethlehem Hospital records for the past five years as to heredity in the insane.[5] Out of 1072 patients, 375, or 34.9 per cent., had one or more insane blood relations. This was 38 per cent. of the cases whose history was known. The mothers' insanity proved especially dangerous to daughters. More patients had insane mothers than fathers. Of the 38 per cent., 20 per cent. had in addition lost blood relations from phthisis.

Puerperal State. — Dr. Ripping in a recent work presents an analysis of the cases of insanity due to the puerperal condition admitted at Siegberg in four years.[6] Of 780 females 168 had puerperal psychoses in the wide sense. Of these, 19 per cent. were insanity of pregnancy, 53 per cent. puerperal insanity proper, 28 per cent. insanity of lactation. The form was mania 34.5, melancholia 63.6. With the younger patients mania predominated, with the older melancholia. Melancholia was most frequent during pregnancy, next during lactation, and least during the puerperal state, as compared with mania. In mania 63 per cent. recovered, in melancholia 33.6. The earlier asylum treatment commenced, the more speedy the recovery. Subsequent attacks were more easily recovered from than primary ones. Average duration of melancholia ten months, of mania seven.

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[1] Times and Gazette, January 5, 1877.

[2] Zeitschrift für Psychiatrie, 1877.

[3] Report of Walnut Hill Asylum for Inebriates, 1877.

[4] Report, 1876.

[5] Guy's Hospital Reports, 1877.

[6] Dr. Cobbold, London Medical Record, May 15, 1878.

The insanity of pregnancy was more frequent in the later months. Predisposing causes were heredity, former attacks, disorders of circulation, and emotional disturbances. Illegitimacy of the child was a common disturbing cause. Liability to insanity diminished with successive pregnancies. In relapses the form of insanity never repeated itself. Prognosis rendered unfavorable by its occurrence in the earlier months, by heredity, and by advanced age of the patient.

Puerperal insanity generally came on within two weeks of delivery. Cases of first labor were 71 per cent. Complications, such as hæmorrhage, metritis, also moral causes, such as grief at death of child, seemed to have a causative effect. Recoveries from mania 54.5 per cent., melancholia 40.6 per cent. Youth, early outbreak, and timely removal to asylum favored recovery. Average duration of all cases, eight months. After abortion cases were often complicated by spasms without unconsciousness. These cases recovered in about five months, the usual anæmia yielding rapidly to treatment.

Insanity of lactation was noted as early as the second half of the second month, the patient's powers becoming gradually weakened by pregnancy, labor, and puerperal troubles, exhaustion from lactation proving the final cause of insanity. A succession of labors predisposes. Melancholia is far the most frequent form. Prognosis less favorable, though fatal cases are rare, the patient lapsing into chronic delusional insanity, often with hallucination of hearing. Duration in cases that recovered, 9.5 months.

FORMS.

Folie à Deux. — Drs. Lasègue and Falret,[1] in an article with the above title, attempt to show that insanity is in some cases contagious. This is an old theory, and is true to a certain extent, taking the term contagion in a special sense as applied to mind. These authors conclude that such contagion is possible only under the following conditions: (*a*) One of the persons must be the more intelligent, and having acquired a delusion grafts it by degrees into the mind of the other; (*b*) both persons must live for a long time an absolutely similar life, together and amid the same influences and surroundings; (*c*) the delusion must be of a reasonable description and within the limits of possibility, resting upon actual events or hopes and fears for the future. This form is more common in women, and when occurring in persons of the same family heredity may be alleged as a predisposing cause. The contagion sometimes spreads to several persons or a whole neighborhood in a more feeble degree. Removal of the originator of the delusion sometimes effects a cure.

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[1] Annales medico-psychologique, November, 1877.

Psychic Epilepsy. — Dr. Weiss publishes six cases of this form of epilepsy.[1] Its characteristics are: (1) absence of muscular spasm; (2) forgetfulness or dim recollection of what has occurred in the attack; (3) periodical return of attacks with same or similar symptoms, with rapid onset and cessation.

Katatonia. — Dr. Kiernan[2] gives five cases, with one post mortem, of this form of insanity, just described by Dr. Kahlbaum in a recent work. Its distinguishing features are irregularity of mental and muscular tension. He believes it to be a distinct form, having its own clinical history, ætiology, and pathology. The first symptom is usually change of temper. It presents from time to time movements of a well-marked rhythmical character, always under control of the will, differing in this respect from chorea. The mental symptoms have a cyclical character, mania, melancholia, and a cataleptoid state alternating. There are often erotic excitement and religious delusions. There is a tendency to act and speak theatrically, with delusions of self-importance. Dr. Kiernan has seen thirty cases. He thinks a strumous diathesis the usual predisposing cause, and has found in several cases evidence of tubercular meningitis of the base of the brain.

Folie du doute, or doubting madness, is the subject of a prize essay by Le Grand du Saulle, of which M. Roger gives a summary in the Bulletin de l'Académie de France.[3] Doubting madness is characterized by chimerical fears and doubts concerning everything, — the problems of existence and the most insignificant subjects. The unhappy victim of it questions those about him continually, at the same time realizing to some extent the absurdity of his condition. He perhaps seeks treatment in an asylum for the insane. There are many varieties, such as the speculative or metaphysical mania, the counting mania, the washing mania, and the like. One patient thinks the books in his library or clothes in his closet are disarranged, although he has just looked for the hundredth time to reassure himself on the subject. Another patient is constantly doubting the cleanliness of his hands, and cannot touch certain articles without immediately washing off the imaginary impurity. This *délire du touche* may arise from some tactile disorder or hyper-sensitiveness of nerves of feeling. Agoraphobia seems to be another form, the patient's nervous fears keeping him from crossing the street. A similar form is that where the patient is a slave to routine, and must perform the smallest duties daily, at the same time and in the same way; must always go up on one side of the street and return on the other, for instance. If this routine is interfered with in the slightest degree he is extremely unhappy. This mania seldom ends in dementia, although some patients seem almost demented from their absorption in one painful direction. They are sound on general subjects when the mind is diverted. The most likely means of cure are moral and hygienic. This is another case of a new name for an old disease.

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[1] Zeitschrift für Psychiatrie, 1878, quoted by Dr. Cobbold, London Medical Record, May 15, 1878.

[2] Journal of Insanity, July, 1877.

[3] British Medical Journal, September 7, 1878.

DIAGNOSIS.

Cerebral Thermometry. — M. Broca recently reported the results of his experiments in cerebral thermometry to the Association for the Advancement of Science at Havre.[1] He uses six flat coil thermometers packed in wool, applied three on each side of the head, over the frontal, temporal, and occipital regions. He divides the total readings by six, and finds a maximum temperature in health of 94.73° F.; minimum, 91.04° F.; mean, 92.88° F. Temperature on left 93.2° F., right 93.02° F., during repose. On stimulating mental action by reading the equilibrium is restored. He supposes the left hemisphere to receive the larger amount of blood until the whole brain is set at work, when the right attracts more than the left, the effort being presumably greater in that hemisphere. Recent observations of Dr. Boyd[2] confirm the opinion that the left hemisphere does the most work. He finds the mean weight of the left hemisphere in the insane greater than the right, except in cases of general paralysis, in which there is always much brain wasting. One would expect the greatest waste on the side of greatest activity, so that the exception is equally significant with the rule.

M. Broca finds the occipital temperature 91.25° F., temporal 92.29° F., frontal 95.5° F. He thinks activity of function accounts for the frontal excess. When the brain works the mean temperature rises about one degree. He has demonstrated the existence of an embolon by showing diminished temperature over the region supplied by the middle cerebral artery. Dr. Bucknill, twenty years ago, found the frontal temperature in the insane four degrees above normal in sthenic mania and melancholia with excitement, and three degrees below in chronic mania, melancholia attonita, and dementia. Dr. Landon Carter Gray

[1] London Medical Record, October 15, 1877.

[2] British Medical Journal, September 7, 1878.

has just published a paper on Cerebral Thermometry based on extended experiments, differing somewhat in method from those of M. Broca.[1]

Metalloscopy. — This is a method of testing by metals cases of supposed hysterical origin, invented by Dr. Burq twenty-five years ago, but recently tried by M. Charcot at Salpêtrière. It has also been the subject of investigation by a commission consisting of M. Charcot, M. Luys, and M. Dumontpallier, which reported favorably upon it to the Société de Biologie last year.[2] This commission found that, in cases of hysterical hemianæsthesia, if small coins or pieces of gold, silver, copper, iron, or zinc were bound on the forehead, arm, or leg of the patient, and another piece placed in the mouth or on the mastoid process of the affected side, sensation would return in about fifteen minutes, the diminished cutaneous blood supply would be restored, muscular power would augment, the temperature rise, and the senses which had been annulled regain their normal vigor. What was gained on the affected side was lost on the well side. These effects lasted about two hours, when the original condition would be gradually resumed.

Dr. Burq thinks these results due to feeble electric currents acting on the vaso-motor nerves, as the galvanometer showed a different deflection for each metal used. In fact, feeble electric currents sufficient to cause the same degree of deflection had the same result as the corresponding metal, and a greater or less current had no effect whatever. The theory is still in dispute, as some authorities claim that the above symptoms could all be produced by the expectant state of mind induced by the application.

Percussion of the Skull. — Dr. Robertson, in a recent paper,[3] remarks upon percussion of the skull as a means of locating certain diseases of the brain, such as tumors, etc. He gives three cases in which it was successfully applied, bringing out local pain which did not previously exist, and defining the limits of the painful area when pain was present.

LOCALIZATION.

Ferrier, in the last Gulstonian Lectures,[4] takes a careful survey of the recent evidence in favor of his views on the localization of function in the brain. He considers the objections raised by Brown-Séquard, and explains his own opinions as modified by the newest facts in pathology. He leaves the domain of experiment for that of clinical and pathological observation, and finds much to confirm and little to discredit his inferences, based on the electrical stimulation of the cortex in the lower animals. It is evident, he says, that functions are separately located to some degree, since the mental powers, motion, and sensation are separately affected by disease. We are ignorant of the part of the cortex affected in insanity, except in the form known as general paralysis. The conclusion must not, however, be drawn that there is no region more particularly charged with the mental operations than another, but we may infer that the precise pathological condition is beyond our present means of research. The changes observed after death from insanity are mostly secondary. Since one hemisphere alone is probably sufficient for the fundamental processes of mind, sensation and emotion, volition and movement, the same part in both hemispheres must be destroyed to indicate beyond a doubt any special localization. This bilateral lesion is seldom found in affections of the cortex, except when it is so general as to fail to serve as a guide to location.

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[1] New York Medical Journal, August, 1878.

[2] Bulletin de la Société de Biologie, 1877.

[3] Journal of Mental Science, July, 1878.

[4] British Medical Journal, March 23 to April 27, 1878.

Brown-Séquard has collected, by careful search among records chiefly antiquated, nearly a hundred cases of direct paralysis, which he offers in opposition to Ferrier's views of crossed action of the hemispheres. For every one of these rather untrustworthy cases can be presented a thousand of indirect paralysis, and Ferrier thinks the few authentic cases can much better be explained as resulting from some anomaly or unknown peculiarity of anatomical arrangement than as inconsistent with a rule so universal as that of crossed action.

Lesions of the frontal lobes may occur without affecting sensation or motion, even in such extensive lesions as existed in the famous crowbar case. The mind, however, is usually impaired. In this case and similar ones there is a want of balance, a hebetude, and loss of the power of attention which is very apparent, and resembles a similar condition artificially produced by Ferrier in monkeys.

Destructive or irritative lesions of the middle lobes or motor region of Ferrier invariably cause paralysis of voluntary motion or spasm. Lesions may not always be demonstrable when these symptoms have existed, but they may have been present, or exist beyond our power of observation. If we adopt, to explain such cases, Brown-Séquard's too convenient theory of reflex action we cannot in any case argue from lesion to function. Cortical paralysis is to be distinguished from hemiplegia due to lesions lower down by the occurrence of fractional and dissociated forms of monoplegia, sometimes coalescing into hemiplegia as the disease involves more and more of the cortex. When hemiplegia occurs at first we may see it breaking up into single forms as the cortical lesion yields to time or treatment. Irritative lesions of the motor area result in partial spasms and local epilepsies, such as have been so well described by Dr. Jackson.

The lesions of the sense centres lead to similar effects on the special senses. Lesion of the temporo-parietal region induces hemianæsthesia of the opposite side. Up to the present time facts do not warrant us in generalizing upon the functions of the occipital lobes.

Charcot and Pitres [1] present forty-two cases, observed at the Salpêtrière, of limited cortical lesions, with their corresponding symptoms. They conclude that there is in the cortex a motor zone very nearly the same as Ferrier's motor region, lesions of which are always accompanied by motor disorders. All cortical lesions outside of this zone have no motor symptoms. If the lesion is sudden and extensive hemiplegia results, not to be distinguished from common hemiplegia. If the lesion is limited, monoplegias occur. The centres for the neck, eyes, and eyelids they were not able to determine. Their method of preserving demonstrable evidence of location was to harden the brain in dilute nitric acid and allow it to dry, when the spot of disease was painted in color, showing permanently its exact position and shape.

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[1] Revue mensuelle, January, et seq., 1877.

TREATMENT.

Metallotherapy is based on metalloscopy. The metal having the effects previously described is to be administered in some form internally. This M. Charcot has done, as he claims, with uniform good results.[1] The benefit of the metallic application is also said to be more or less permanent in hemianæsthesia of organic cerebral origin.

Hydrobromic Acid is used by Dr. Hamilton[2] in cerebral hyperæmia as a powerful anæmiant, its action being more intense but more transient than that of the bromides. He considers half a drachm equal to a drachm of bromide of potassium. Dr. Squibb[3] says the acid as furnished by druggists is extremely variable in strength. It should be a thirty-four per cent. solution, of which twelve to fifteen minims may be given largely diluted, say in three or four ounces of lemonade, with considerable syrup. The bromine in this dose is equivalent to that in ten to fifteen grains of bromide of potassium, but the effect is much greater.

Bromide of Zinc. — M. Charcot finds this salt very useful in epilepsy in gradually increasing doses. He uses it in the form of pills, and the maximum daily dose reached is twenty-five grains.

Tri-Nitro-Glycerine. — Dr. Hamilton uses in the place of nitrite of amyle in epilepsy, and for other purposes where the latter is indicated, one tenth of a grain of tri-nitro-glycerine in solution on the tongue. Its action in stimulating the cerebral circulation is immediate and very powerful.

Dr. Mery has tried the method advised by Jacobi, of Siegberg, in fifteen recent cases of general paralysis, as he claims, with great success.[4] He proceeds, on the ground that general paralysis is a chronic encephalitis of the frontal lobes, to apply counter-irritation over the anterior part of the scalp. He shaves a space half as large as the hand, and applies tartar-emetic ointment twice. He keeps a suppurating surface open for months, and makes internal use of iodide of potassium. Of the fifteen cases eight were cured, and remained well at the end of two or three years. Four of these, however, were syphilitic cases.

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[1] Gazette des Hôpitaux, No. 113, 1877.

[2] Nervous Diseases, page 81.

[3] Transactions of the Medical Society of the State of New York, 1878.

[4] London Medical Record, October 15, 1877.

Non-Restraint in the treatment of insanity is discussed by W. Lander Lindsay, of the Murray Royal Asylum, Perth, Scotland, with unexpected frankness for a British writer.[1] We have at last a full and complete acknowledgment of the soundness of the American doctrine on this subject, and a claim that at least ninety per cent. of English authorities tacitly hold the same opinions, and use, more or less freely, mechanical restraint. This fact has been known to American alienists for a long time, but public pressure has prevented any honest, outspoken avowal of opposition to Conollyism, or the absolute disuse of mechanical restraint as a rule, in England. We ventured to predict and partially describe a reaction from the strictness of this rule in a former article,[2] as well as some of the accidents and mishaps arising from a too complete yielding to the tyranny of popular clamor. American superintendents have been subjected to much hostile criticism, and our asylums to much disparagement, because of the pretended adherence to non-restraint in England. We are now told that but three or four avowed disciples of Conolly can be found.

Dr. Lindsay shows by their own indirect admissions that these few advocates of non-restraint not only use all the objectionable substitutes, such as seclusion in padded cells, manual or personal restraint, and drugs, but also camisoles, wristlets, bedstraps, and locked bedsteads in certain cases. Maudsley admits that no increase of recoveries has followed this course, and Dr. Lindsay gives the names of the best authorities who now indorse the use of mechanical restraint in cases where in the judgment of the superintendent the patient's good requires it. The lunacy commissioners of the three kingdoms permit and in some cases advise its use. On the Continent what is known as "the English swindle" meets with little favor, and in the United States the most enlightened and progressive superintendents, such as Kirkbride and Ray, believe mechanical restraint in some cases to be not only necessary but in the highest degree humane. Its benefits are sometimes recognized by the patients themselves, who demand its application when the occasion arises. George III. said on recovering from an attack of mania that the strait-jacket was the best friend he ever had. Dr. Lindsay goes so far as to say that the substitutes for mechanical restraint have done more harm in England than all the evils, so far as they were real, of the old abuse of restraint.

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[1] Edinburgh Medical Journal, April and May, 1878.

[2] JOURNAL, August 16, 1877.

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

MAY 27, 1878. *Calculi passed per Urethram.* — DR. HODGES showed a collection of calculi passed spontaneously, which were chiefly remarkable from their exceptionally large size. The calculi caused little or no irritability of the bladder, in spite of the fact that several were quite large, and nearly all irregular in shape, though without any very sharp edges.

Cholesterine Biliary Calculus. — DR. CUTLER showed a calculus found impacted in the extremity of the cystic duct, and completely closing the gall-bladder. The calculus was pure white, crystalline, and composed wholly of cholesterine. The gall-bladder was distended and curled like an œdematous penis; it contained six to eight ounces of clear, colorless, somewhat viscid fluid, which had a neutral reaction, and was not coagulated by either heat or nitric acid, but answered the test for mucine. The liver was not diseased, and the other organs of the body were apparently healthy. The patient died of some obscure cerebral symptoms.

DR. JACKSON had seen impacted gall-stones before, and had remarked that the fluid was usually of like appearance to that in this case when the impaction had lasted a long time.

Lymphosarcoma of the Neck involving the Lung. — DR. F. I. KNIGHT reported the case. Mrs. F., thirty-two years of age, was first seen by him on the 26th of October, 1877. Her father died at seventy-four of "lung fever;" her mother was alive and well. She had eleven brothers and sisters, four of whom died in infancy; seven are well. The patient was strong till the age of twenty-four, when she had measles during a pregnancy, and has not been so well since. She reports that the tumor on the right side of the neck, which is now as large as two fists, has been growing ever since this attack of measles, and says that the surgeons of the Massachusetts General Hospital declined to undertake any operative measures four years ago. Three years ago she had what was called "lung fever," and eight months afterwards what was called "pneumonia," which confined her to bed seven weeks. She has had cough most of the time since, and recently has had another attack of "lung fever," and has been coughing more, and running down since July, 1877. There has been marked dyspnœa for three months. She can lie only on the right side. Pulse 120; respiration 32; temperature 101.1° F.

On physical examination, besides the large tumor of the neck, which extended down over the right clavicle, there was flatness on percussion over the whole of the right front, sternum, and somewhat to the left of the sternum; flatness was also found on percussion from an inch below the angle of the right scapula to the bottom of the chest. Above this, behind, there was considerable resonance, though not so much as on the opposite side. The vocal resonance was louder at the angle of the right scapula than at the angle of the left. There was feeble bronchial respiration under the right clavicle, that is, below the tumor; there was indeterminate respiration below this to the nipple; feeble indeterminate respiration in the right axilla; no respiratory murmur below in the axillary line. Behind, on the right side, the respiratory murmur was rather bronchial in the supra-scapular region, vesicular in the inter-scapular region, and over the scapula as far as the lower angle; absent below. The vocal resonance was concentrated under the tumor in front, and was louder with increased vocal fremitus on palpation, at the lower angle of the right scapula than in the same region of the opposite side of the chest. The heart was not displaced. The liver did not seem to be depressed or enlarged. The spleen was found to be enlarged by Dr. Chadwick. There were several other smaller glandular enlargements in the left axilla, left breast, and so forth. The case was regarded one of multiple sarcoma, which had invaded the right chest. From the very considerable resonance over the greater part of the right back it was not thought by Drs. Chadwick, T. B. Curtis, and Knight, all of whom examined the case carefully, that there was any very great amount of effusion in the right pleural cavity at that time. The patient returned home to another city, and grew worse gradually, till she finally died, May 15, 1878.

Dr. E. G. Cutler performed the autopsy, and exhibited the specimens. On opening the abdominal cavity the liver was found to be displaced wholly below the edge of the ribs. It was not enlarged. Two quarts of blood-stained, clear serum were found in the right pleural sac. The right lung, except at its apex and the upper part of the lower lobe in front, was wholly retracted, and contained very little air. The lung was separated from the chest wall on all sides, — below, at the side, and behind by fluid, and above by a dense, knobbed, subpleural tumor entering the chest from the posterior mediastinum. On section the lung was seen to be infiltrated at its root by two small, nodular growths along the bronchi. The left pleural sac contained about a pint of blood-stained serum. The left lung was infiltrated by a growth the size of the closed fist at the upper part of the lower lobe directly under the fissure, between the two lobes, and at the root of the lung. The vessels and œsophagus in the posterior mediastinum were not compressed, with the exception of the vena cava, which was slightly pressed upon by the growth, causing a lividity of the head and right arm, with some œdema. The tumor in the right side of the thorax was directly continuous with that in the neck; it entered at the spine, and pushed out towards the right in an irregular pyramidal form. It weighed three pounds. The spleen measured eight by two and one half by four and one half inches; it was dense, and on section the Malpighian follicles were found to be the seat of a secondary deposit of the same character as the tumor in the neck and chest. A microscopic examination showed the tumor to be a lymphosarcoma, and the deposits in the lung and spleen were of the same character.

Dr. Bowditch had seen a case in consultation where a condition had been discovered at the autopsy similar to that found in the case reported by Dr. Knight. The growth was hard; it had invaded the lung from the posterior mediastinum, and displaced the heart.

Abuse of Caustics in Gynæcology. — Dr. Baker read a paper on the Abuse of Caustics in Gynæcology, which has appeared in the Journal.

Dr. Lyman thought that the caustic effects of nitrate of silver were rather small, and this was the fault he had found with this application to the os. At the hospital he had used much stronger caustics when his wish had been to produce contraction.

June 10, 1878. *Salicylic Acid in Neuralgia.* — Dr. Abbot reported a case of sciatica in which salicylic acid seemed to restore the patient to health; the case will appear in the Journal.

Lupus of the Hand. — Dr. Greenough showed a female patient whom he had had under observation occasionally during four years. On the back of the right hand, between the wrist and ends of the metacarpal bones was a slightly elevated, deep red nodular eruption, with no ulcerations, but in certain places elevated above the general surface, having a boggy feel, and with places between the nodules which had healed spontaneously, leaving cicatricial tissue. There had never been any breaking down and ulceration, and though the history was unlike that of lupus its behavior on treatment was quite characteristic of that disease. He had treated her antisyphilitically without any result, and other internal remedies had failed to prove beneficial. Of late he had been treating her by inserting the solid nitrate of silver into the boggy tissue, and boring in all directions till healthy tissue was met with. This was easily accomplished, and was not a very painful process to the patient. She had improved considerably under this measure, though the duration of the treatment had not been sufficient to more than suggest its benefit. On the whole the case was more like lupus than scrofuloderma, and he classed the affection as such.

Dr. White said that it was very difficult in many cases to distinguish between lupus and scrofuloderma; indeed in some cases it was possible to tell only from the effects of treatment, as the clinical history and appearance were often of little service.

Warning against "Cuticura," a Patent Medicine. — Dr. White wished to call the attention of the profession to a patent medicine, called "cuticura," manufactured by a large house in this city, Within two weeks he had seen several cases of an active dermatitis follow its use. There was heat, burning, swelling, and œdema of the parts affected, and the results lasted several days. In answer to a question by Dr. Lyman he did not know that there was any bichloride of mercury in the preparation; the effects were unlike those from this drug.

Dr. Nichols had also seen some cases of inflammation of the skin following its use, which were apparently worse than those spoken of by Dr. White. In several of the cases he had had, the eruption had been pustular. The preparation was said to have the oil of bayberry as its active ingredient.

June 24, 1878. *Stricture of the Œsophagus caused by Gastric Ulcer.* — Dr. Abbot reported the case. The patient, a Swede, thirty-five years old, entered the Massachusetts General Hospital June 4th. He reported that his health had been uniformly good until December last. At that time hebegan to have dysphagia with pain at the epigastrium after taking food. This, however, did not always follow food, but came on occasionally at other times. There was frequent vomiting, occasionally of reddish matter. About the first of May the epigastric pain disappeared, and did not return. For two weeks the patient thought himself well, and swallowed without difficulty. At the end of this time he began to feel as if his food came to a stop at a point just above the epigastrium. This difficulty increased until June 4th, when he entered the hospital, having swallowed nothing for two days. At this time it was observed that after swallowing about four mouthfuls of liquid acute pain was felt across the whole front chest, apparently reflex, compelling the patient to excite vomiting by thrusting his finger down his throat. A probang was pushed down to the cardiac extremity of the œsophagus several times, but without entering the stomach. A little milk occasionally seemed to find its way into the stomach. The patient was supported by nutritive enemata with stimulants, and finally died quietly on June 20th. The autopsy was made by Dr. Fitz, who showed the specimens, and gave the following account: —

On the posterior wall of the stomach, in the immediate vicinity of the œsophageal opening, was a round, perforating ulcer, the floor of which was formed by the œsophagus. The constriction was the evident sequence of the resulting inflammation of the connective tissue around the œsophagus in the immediate vicinity of the adherent edges of the ulcer. The obstruction was such as to diminish the opening to one fourth of an inch in diameter. The presence of the scar of a former ulcer in the smaller curvature of the stomach, near the pylorus, suggested that the ulcer of the stomach had given rise to the œsophageal stricture rather than the reverse.

In answer to a question Dr. Abbot said the patient had lived eighteen days supported by no nutriment except per rectum.

Tracheotomy Tube. — A tracheotomy tube was shown by Dr. Warren, which had been worn by a child one year. Both the outer and inner tubes were eroded, and the sharp edges had irritated the larynx.

Dr. Hodges mentioned that this erosion could be prevented by gold-plating the tube.

Perforation of the Gall-Bladder. — Dr. Lyman reported the case. He had been called late in the evening of June 17th to see Mrs. —— in consultation, twenty miles from town. The patient, a lady of sixty, had a few days before suffered from severe abdominal pain and vomiting. This was temporarily relieved by morphia and rest, with fomentations, but the symptoms had recurred, and at the time of the visit there was considerable tympanites, some tenderness on pressure above the pubes, especially on the right side, but no pain. The legs were extended, there was no dysuria, and neither pulse nor temperature was much increased. There was no epigastric pain. She was unable to rest with comfort on either side. There had been no movement of the bowels for forty-eight hours or more. The patient had had previous similar attacks during the last few years, which, together with the whole appearance, made it probable that there was no peritonitis. Before resorting to other measures a long rectal tube was introduced very satisfactorily. Through this a good deal of flatus escaped and some mucus. Before removing the tube thirty grains of chloral hydrate were injected in half a pint of warm water.

The patient expressed herself as much relieved, turned upon her side easily and slept for five hours.

The following morning, being very comfortable in every way, it was thought safe to give an active cathartic; this produced four satisfactory dejections. Though much prostrated she was considered to be convalescent. The improvement continued, the patient being able to sit up, but she complained of great weakness. On the 22d, about nine days after the first symptoms, she had a severe attack of vomiting, which lasted through the night, and in the morning her physician found her in a state of collapse, the pulse 92, temperature below the normal. When seen by Dr. Lyman at noon on the 23d, she was rapidly failing, and death ensued in a short time.

At the autopsy, made by Dr. Fitz, the intestines were found glued together and to the abdominal wall by recent adhesions, and the peritonæum was extensively injected. The adhesions were most abundant in the immediate vicinity of the gall-bladder, and when detached from the latter were seen to include a biliary calculus of the size of a grape seed. This had evidently escaped from the gall-bladder through a minute circular opening seated at the fundus. There were several old fibrous adhesions about the gall-bladder. The interior of this viscus was filled with upwards of forty small faceted calculi, and contained less than a drachm of slightly opaque, glairy fluid. The cystic duct was completely obstructed by a calculus as large as a bean. The common duct and the hepatic duct were unobstructed and stained with bile. The lining membrane of the gall-bladder was smooth, gray, and moderately translucent, the margin of the opening being of a slaty-blue color.

Bite of a Centipede. — DR. WARREN reported a case of supposed bite of a centipede. The patient was an army officer, who, while asleep in his tent in Texas, was awakened by a sharp, stinging pain between the eyes. A swelling followed, and has remained there since. It was considered by the local physicians to be the result of the bite of a centipede. When seen by Dr. Warren there seemed to be a slight cavity filled with pus; this was slit open, and did well for a time, but had not healed, becoming occasionally worse. This, the patient stated, had been the course of the affection since its first appearance. There was no evidence of syphilis. Dr. Warren showed a centipede preserved in alcohol.

DR. WHEELER related a case of a gentleman in California who was bitten by a centipede, causing a local inflammation, which healed, leaving, however, constitutional symptoms in nervous prostration.

Pine Pollen. — DR. J. O. GREEN showed a specimen of the material which was collected in one of the neighboring towns after a rain, and which gave rise to the belief of a sulphur shower. On microscopical examination the substance was discovered to be the pollen from pine-trees.

Vesicular and Pustular Eruption following the Use of Salicylic Acid in Rheumatism. — DR. WHEELER spoke of an eruption which he had observed follow the use of salicylic acid in rheumatism. It consisted of vesicles and pustules seen on both extremities. There was much sweating, and the patient died a few days later of some complication. The eruption diminished after the discontinuance of the acid.

Inflamed Papillæ of the Tongue. — Dr. Lyman reported two cases of inflamed papillæ of the tongue. There was great tenderness, which prevented eating and banished sleep. The body of the tongue was not swollen, but the roof of the mouth could not be touched by the tongue without causing pain. Some of the papillæ were long, and in places were quite numerous, giving a velvety appearance to the edge of the tongue. In one case the teeth were perfect, in the other a few were carious. After extraction of the carious teeth there was a growth of epulis on the gum. All treatment adopted at first was unavailing, though one patient thought that some relief followed the taking of bromide of arsenic. Dr. Lyman touched one side of the tongue in one patient with a solution of carbolic acid, one drachm to one ounce of glycerine, which caused pain at the time, but was shortly followed by manifest relief.

Carbolated Cosmoline in Pruritus Ani. — Dr. Minot spoke of the good effects following the application of carbolated cosmoline in a very troublesome pruritus ani in a young lady. He had subsequently tried it with like good effect in an elderly gentleman.

July 8, 1878. *Chorea of the Glottis.* — Dr. Wheeler reported the case. A girl twelve years old had been attacked about four months before with the following symptoms: The shoulders were fixed, the head raised back, and then a series of barking or expiratory efforts were made. The attacks gradually became more frequent and worse, and finally recurred every fifteen minutes during the waking hours. She slept without having any paroxysm. When the patient was seen the paroxysms were a minute to a minute and a half in duration, and the face became very livid. She had emaciated very much. Chloral and general tonics gave no material relief. Belladonna, phosphoric and nitric acids, and small doses of strychnia tried successively were also of no avail. Chloroform was cautiously tried as the paroxysms seemed to be increasing, and, alternated with ether, afforded some relief. Finally quinine was given in the dose of four grains in the morning, to be repeated every four hours through the day. At the second dose the interval of the paroxysm broke, and a third dose was not required. The patient progressively improved, and there has been no recurrence. An examination of the larynx during a paroxysm showed the epiglottis to be standing up straight, and the vocal cords to be vibrating rapidly. Nothing abnormal was noticed.

Dr. Langmaid said such cases were not extremely rare; some had been published by Bennet and others. It had lately been called chorea of the larynx. A case had been reported by Dr. Bowditch, and also one by himself. In his own case the paroxysms had not been so severe as in the case of Dr. Wheeler. He had given the same drugs as Dr. Wheeler, and in addition assafœtida. Ether had quieted his case for a time, but on being roused the child had recurrence of the paroxysms. He had considered that there was an element of hysteria in the case, and had told the patient to close her mouth with the hand at the commencement of a paroxysm; this was done, the attacks were stopped, and the patient finally recovered, remaining well at present. The child had a fine voice, and her father, a music teacher, had been too zealous in his requirements of practice.

Dr. Lyman recalled the familiar case of the barking soldier, who used to be seen about town after the late war, having come from the South to Gallop's Island.

Specimens in the Army Medical Museum. — Dr. Jackson at a previous meeting spoke of some interesting specimens he had seen recently at the Army Medical Museum in Washington, — the skeletons of three Indian squaws, in which the pubic arch was very broadly open, and which may help to explain the easy labors which they are said to have; the same in a Chinese. In the same museum Dr. Jackson examined individually eighty-four Esquimaux skulls. In seventy-four the longitudinal ridge that has been observed upon the top of the head was found, and in six it was quite marked, but it was seen in none of the other wild races. The nasal bones were decidedly narrow in sixty-three, and in two they came to a point, as in the simiæ. In two the superior maxillaries came together between them and the frontal, or where they would have been if they had not fallen out, and were united by sutures, three sixteenths of an inch in length in one, and seven sixteenths of an inch in the other; and this same very remarkable anomaly existed in another Esquimaux skull in the Smithsonian Institute; the nasals and maxillaries in this last were very extensively fused, but the outline of the former sutures was quite distinct. The infra-orbital foramina were decidedly larger than in the Caucasians, and in five they were very large. The supra-orbitary foramina, that Dr. Jackson had not often seen in the Caucasians, existed on both sides in thirty-nine; on one side, with a groove upon the other, in sixteen; and in eighteen there were grooves upon both sides.

In the museum of the College of Physicians in Philadelphia there is a magnificent collection of injected and corroded preparations, and of dissections of the internal ear by Hyrtl of Vienna; a large number of uncommonly fine specimens of dislocation of the hip, and in which the new socket must be in many of them four or five inches in diameter, the old socket remaining to a considerable extent, as in our own specimens; a skeleton, recently added, seven feet six inches high, and if it were not for a lateral curvature of the spine it would have been higher; a body changed into adipocere from a person who died eighty years ago. In the University Museum there is a similar case, the patient having died of yellow fever in 1792. In this last museum is "an ossified ovary," according to the label, and about as large as the fist, but that in every respect resembles a subperitoneal uterine calcareous fibroid.

Dr. Jackson at this meeting referred to the above report of the examination of the Esquimaux skulls, and showed some photographs and stereographs, kindly taken and sent him by Dr. Otis of the United States army, of one of the specimens examined by him. He called attention to the fact that the ridge over the vertex, characteristic of the Esquimaux, was very distinctly shown by the photographs, as well as the other points in the anatomy already described by him.

Dr. Jackson also showed a rough *ovoid calculus* nearly one half of an inch in length, that he had received from Dr. Wm. H. Westcott, of Dorchester. The patient was a sea captain, about sixty years of age, and had previously had no urinary symptoms. While urinating the passage suddenly became obstructed, so that the urine escaped only in drops. Dr. Wescott saw him the next morning, found the bladder painfully distended, and felt the calculus with the sound in front of the triangular ligament. With some difficulty it was withdrawn with the ordinary "mouse-tooth" bullet forceps, and the patient was at once relieved.

THE PATHOLOGICAL ANATOMY OF THE EAR.[1]

This work, which constitutes the sixth part of Klebs's Hand-Book of Pathological Anatomy, and which is, as the translator states in his preface, the only comprehensive work strictly devoted to the pathological anatomy of the organ of hearing, is now particularly welcome; for with the steadily growing interest in otology has come the demand for a better knowledge of the subject, of which the author of this work, from the large material at his command, and from his well-known thoroughness and accuracy of observation, is especially fitted to treat.

The arrangement of the book is such as to give concisely the results of the author's observations, together with comprehensive references to the literature of the subject under its various headings. There is presented, therefore, within the limits of the one hundred and seventy-four pages of the translation, not merely the author's treatise on the pathological anatomy of the ear, but a review of all previous publications having value in this connection.

The first twenty-eight pages include an introduction, a description of the manner of dissecting the ear, and the pathology of the temporal bone, with ten illustrations; then follow malformations and diseases of the auricle and meatus, comprising twenty-nine pages with thirteen illustrations; the following ninety-three pages are devoted to the pathology of the membrana tympani, tympanic cavity, Eustachian tube, and cavity of the mastoid, with thirty-five illustrations; and the remaining twenty-four pages treat of the pathology of the inner ear and auditory nerve.

Of the sixty-five wood-cuts embellishing the book, all of which are excellent, forty-three are original; the remainder are taken from the publications of Gruber, Politzer, and others.

That this work commends itself to the attention and careful study not merely of the special but of the general practitioner is shown by the perusal particularly of those portions treating of the relations of diseases of the organ of hearing proper to those of contiguous structures.

The inner portion especially of the external auditory canal and the tympanic cavity are so closely related to the brain, for instance, and are so frequently the seat of serious lesions, that the attainment of that proper knowledge of the pathological processes accompanying aural disease rendered possible by this publication becomes incumbent upon the general practitioner. It is but fitting that so valuable a book should have found so good a translation, the work done in this respect implying not merely a rare facility in the rendering of the text, but an intimate knowledge of the subject and of its literature.

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[1] *The Pathological Anatomy of the Ear.* By Hermann Schwartze, M. D. Translated by J. Orne Green, A. M., M. D. Boston: Houghton, Osgood & Co. 1878.

HAMILTON ON NERVOUS DISEASES.[1]

This work is one of four on the same subject recently published in this country, those of Wilks and Althaus being reprints of English books. The former is a series of lectures covering the whole field of nervous diseases, the subject being less systematically treated, however, by reason of the necessities of the lecture-room. The latter is a treatise based on the author's statistical research into the prevalence of Nervous Diseases in England and Wales the past thirty years. Each disease is considered independently, and also in its relations to locality, age, sex, and the general mortality.

The work of Dr. Hamilton will however naturally come into closer comparison with the last edition of Hammond, because each is the production of a New York physician, and because the former author criticises in many cases the opinions of the latter. Both works are similar in scope, and in convenience of arrangement, clearness of style, and beauty of typography Dr. Hamilton's book will compare favorably with any we have seen on this subject.

Dr. Hamilton, as we think, very properly rejects all consideration of insanity, as deserving more extended treatment than it could possibly receive in a book of this kind. It should always be treated separately, except in a work of encyclopædic dimensions, and such reference as Dr. Hammond gives to it is wholly insufficient and misleading. We do miss, however, all allusion to general paralysis, — a disease of the insane, to be sure, but so interesting as a nervous disease also, and in its diagnostic relations, that it might fairly have been made an exception.

The introductory chapter contains many useful hints concerning methods of examination and study. Dr. Hamilton thinks the ophthalmoscope of no diagnostic value except in cases of organic disease of the brain, the fundus of the eye being rarely an index of the cerebral circulation. At the close of the book are nearly one hundred prescriptions suited to the forms of disease described, which the author refers to by number in the text. He has been very generous with his own formulæ, as well as with the stock in trade, so to speak, of other specialists.

He considers idiopathic inflammation of the dura mater very rare, and does not mention Van der Kolk's eight cases.[2]

Cerebral hyperæmia is well described, though Dr. Hamilton does not agree with Hammond that it is usually a distinct cerebral disease, but believes it is one form of expression of some general condition. The apoplectiform variety described by Hammond and Trousseau he thinks is generally a slight hæmorrhage. The most common causes are extreme heat and excessive brain work. We have seen the two combined produce a most singular form of transient delusional insanity. In discussing the question of increase or diminution of blood in the brain as affected by position, our author discredits the experiments of Burroughs and Kellie on rabbits, suspended head downwards, and quotes Dr. Loring as authority for the statement that the "Champion Fly Walker" could walk on a ceiling head downwards for twenty minutes without any loss of control over his mental operations or any discomfort. He thinks that shock is a more important element than pressure in producing the symptoms of cerebral hyperæmia, and does not believe that Dr. Hammond's method of studying the cranial circulation by means of gauges, or watch-glasses luted into the skull, is a reliable one, as any perforation must modify the normal condition by admitting of atmospheric pressure. The symptoms of cerebral hyperæmia and of anæmia are so closely allied as to be mistaken oftentimes. In the treatment, besides the bromides and ergot, with aconite or digitalis according to the pulse indications, he recommends hydrobromic acid as an intense though transient cerebral anæmiant.

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[1] *Nervous Diseases, their Description and Treatment.* By Allan McLane Hamilton, M. D., one of the Attending Physicians at the Epileptic and Paralytic Hospital, Blackwell's Island, New York. Philadelphia: Henry C. Lea. 1878. 8vo, pp. 504.

[2] Pathology and Therapeutics of Mental Diseases, London, 1870, page 70.

Our author in considering cerebral anæmia as sometimes a continued physiological condition and sometimes a grave pathological state declines to accept the dictum of Hammond and others that the brain is anæmic during sleep, and offers many curious facts which militate against that idea. If it is so, he thinks the anæmia secondary to some change in cell nutrition. He approves Dr. Mitchell's treatment by rest, massage, and faradization in chronic cases in women, and adds a darkened room to quiet the irritability of the special senses.

Brain tumors give rise to the most diverse symptoms, erratic in kind, degree, and order of succession; consequently, the diagnosis is often obscure, and this Dr. Hamilton fully recognizes. He does not refer, however, to a rather numerous class of cases, in which for a time the psychical symptoms mask the physical. A mistaken diagnosis of epilepsy, general paralysis, or hysteria is sometimes made, and the ophthalmoscope does not always give unequivocal evidence. We have seen and seen reported [1] cases of the latter class. The localization of cerebral tumors is also a matter of great difficulty, notwithstanding the researches of Dr. J. Hughlings Jackson and others. Petrina, of Prague, is here quoted *in extenso*.[2] He gives the symptoms corresponding to eleven different locations, which list will prove convenient to the student and practitioner.

Our author believes the symptoms grouped under the name "spinal irritation" due to several different causes, and that to ascribe them in all cases to spinal anæmia, and still further to attempt to locate the point of irritation, in one or other of the columns, as Hammond does, is an "unwarranted and impossible refinement." Hammond says the prognosis is generally favorable, and thinks that ultimately nearly all his cases have been cured, while Hamilton says "well-established spinal irritation is the most intractable functional neurosis to be met with."

Dr. Hamilton has made some investigations into the endemic causes of idiopathic tetanus as observed on Long Island, which will prove interesting. His connection with the Epileptic Hospital gives authority to his statements on the subject of epilepsy, and he has drawn largely from his own experience in its description. He thinks masked and aborted epilepsy and the automatic acts of certain patients, like Mesnet's soldier,[3] never occur without some of the evidences of true epilepsy, and that such evidence alone should exonerate a person from the consequences of his criminal acts. This is no doubt usually true and a safe general rule; yet we believe there are sometimes met with unconscious and automatic acts, unaccompanied by any demonstrable evidence of epilepsy, which are truly discharging lesions of gray matter and come within Hughlings Jackson's definition. Dr. Cobbold has recently published six cases of psychic epilepsy,[1] characterized by the absence of all signs of muscular spasm, and sometimes without vertigo. They were distinguished, like epilepsy proper, by unconsciousness and periodicity. The pathology is discussed at length, but some hints in relation to treatment constitute the most valuable part of the chapter. He condemns the indiscriminate and heroic use of the bromides, using the sodic bromide by preference, sixty grains daily, in divided doses; also chloral, belladonna, digitalis, strychnine, ergot, cod-liver oil, etc., according to indications in each case. He finds tri-nitro-glycerine, in the dose of one tenth of a grain on the tongue, useful in aborting the attack, and more efficient than nitrite of amyl in producing rapid cerebral hyperæmia. We should sooner suspect this drug of causing than of curing a discharging lesion. He finds cases due to peripheral irritation more curable than the idiopathic or traumatic varieties, but does not accept the "sanguine results of certain over-enthusiastic authorities" who find a specific for epilepsy in the bromides.

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[1] Brain, No. 1, April, 1878, Tumor of the Brain simulating Hysteria.

[2] Vierteljahrsschrift für die prakt. Heilkunde, cxxxiii. 1, 2.

[3] Gazette hebdomadaire, July 17, 1874.

We can follow our author no farther, but commend the book as a useful addition to American medical literature, in spite of its sligbtly controversial tone.

T. W. F.

THE SEWERAGE OF TAUNTON.

During the last five months of the year 1877 there were eighty deaths from diphtheria, and probably not far from four hundred and fifty cases, in Taunton, a badly drained city of a little over twenty thousand inhabitants. Dr. Deane's careful report of this epidemic to the State Board of Health showed that house drainage was found, in almost every case, more or less defective where diphtheria appeared. The general insanitary condition of the city is well expressed in his words that it "is pretty uniformly flat and wet, lying in low, alluvial soil, which is undrained, and which receives a large amount of water from water-closets, etc., since the city has introduced a public supply of water, without at the same time furnishing sewers." Dr. Deane's conclusion that the attention of the community should be especially directed to the paramount importance of improving the sanitary condition of the city apparently impressed the authorities of Taunton, and the report[2] before us is the result.

The old drains of the city, say the committee, were constructed for the relief of immediate necessity, without any regard to a general system, frequently without reference to the natural drainage of the whole of the particular district in which they were made. These drains have been built without definite plans and specifications as to depth, grade, form, or materials; or, if such plans were made, they were not adhered to. We might stereotype the description and apply it to every city in our State.

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[1] Zeitschrift für Psychiatrie, 1878.

[2] Report of a Special Committee on Sewerage for the City of Taunton. 1878.

The outfalls for most of these imperfect drains are into a small stream of irregular flow, a receptacle of manufacturing waste, domestic sewage, drainage of public buildings, stables, and gas works, privy deposits, garbage, surface-washings, and, finally, of the sewage of the State Insane Asylum. This filth finds a common bed, to be distributed slowly along the banks of the brook, or is left to putrefy in its muddy bottom, exposed by the withholding of water at the dams, above the city, breeding and sending forth poisonous gases and offensive odors. The greater number of families, however, are remote from sewers of any kind, and are unable to rid themselves satisfactorily of their filth, which remains on their premises, "an unwholesome but unavoidable companion for periods of six months or a year at a time."

By the system of sewerage proposed, the settled part of the city is divided into three districts, of which two drain into the Taunton River, a tidal stream, about thirty miles from the ocean, with an ordinary ebb and flow of about three feet, and having a dry-weather flow estimated at fifty-three million gallons in each twenty-four hours. It is not likely that the daily discharge of sewage will exceed one fiftieth part of this flow for several years to come ; and the freshets scour out the bed of the stream pretty thoroughly at least twice each year. Sewage-utilization at the mouth of the sewer would be costly and difficult, although not impossible ; but, on the other hand, the river would be rendered unsightly by so large a discharge into it, the deposits by the flood tide must be not inconsiderable, and a nuisance will be pretty sure to arise sooner or later. For this reason we should have been glad to see some plan for at least cleansing the sewage before its discharge, — its purification is not necessary, as the water is not used for domestic purposes, — or the outlet should have been so arranged as to discharge only during the first half of each ebb tide. This, perhaps, cannot be insisted on at present, but it is hoped that our laws will control the whole matter before long.

The low position and flat grade of the main sewer, whose arch is nearly at high-water mark of the river, involving the necessity of often flooding the main sewer and some of its branches, and of producing stagnation of flow, sewage-deposits, etc., remote from the outlets, are serious objections, although the terminal part of the main sewer would be better flushed thereby.

The engineer is quite positive in depicting the evils of general drainage into so small a stream as Mill River, a tributary of the Taunton ; and yet, in almost the same breath, he purposes discharging the *whole of the sewage* of his second or largely rural district by five outlets into that very stream, and above a dam ! The pond already receives and deposits the sewage of a considerable population, part of which is to be diverted ; at low water it constitutes one of the greatest nuisances in Taunton at the present time, — a nuisance which it is gravely proposed to perpetuate.

With a protest against such "sanitary engineering" as this, we will refer again to Dr. Deane's paper in the last report of the State Board of Health, where he speaks of the neighborhood of this very polluted pond, and states that the epidemic of diphtheria was especially severe in Park Street and the fatality larger than in any other quarter, amounting in fact to *fifty per cent. of all cases reported* (that is, 132 in Ward 3). In that ward 4.27 per cent. of the population suffered from diphtheria; 1.06 per cent. died of that disease, and 25 per cent. of all the cases proved fatal.

The committee submit the report in a printed form, "in order that it may be preserved, as it deserves to be, for the future benefit of our city government in their public works and of our families in their household regulations." If it serves as a warning it will be kept to much better purpose than if all its provisions are adopted. The recommendation that it be used "as a text-book of sanitary reform and domestic economy" suggests the political sense of the word reform and a Pickwickian understanding of "domestic economy." Many of the suggestions in the report, however, are quite good. Like its predecessor, in regard to the sewerage of Lynn, some of the provisions of which we have already had occasion to condemn, we must demand very serious changes in the plan for the sewerage of Taunton before it can be commended as being fully abreast of our present knowledge of sanitary science.

MEDICAL NOTES.

— M. Delbœuf, says *La France médicale*, has found that when a person afflicted with color-blindness looks through a layer of fuchsine in solution his infirmity disappears. M. Javal has made this discovery practical by interposing a thin layer of gelatine tinted with fuchsine between two glasses. The latter are said to correct the difficulty.

— According to a Danish physician many deaths have resulted from the use of compressed air in affections of the chest. Post mortem in one case enormous bullæ were found in the heart, liver, and principal viscera. M. Paul Bert, of Paris, has met with like results in his experiments on animals.

— We extract what follows from a very readable letter to the Chicago *Medical Journal* from Vienna: —

"Dr. Sims's patients operated upon here all died of peritonitis within ten days of the operation. I remarked to the professor who related the facts to me that I supposed they selected desperate cases for Dr. Sims to operate upon. He replied that although the cases were bad ones that did not alter the fact that they had died of the direct effects of the operation.

"Dr. Bozeman spent two months here in 1876, and I find a pretty general impression among the gynæcologists of Vienna that he is the more skilled operator of the two.

"In the rivalry between these two eminent men, many here in Vienna think Dr. Sims has carried off more than his legitimate share of the professional laurels.

"American female physicians, whom we meet at every turn in Europe, have formerly been able to get private instruction in many special departments of medicine from the docents and assistants here. This winter, unfortunately for them and for those who may come after them, we have had several of the Mary Walker type, who were not contented with any privileges short of those accorded to men, and urged their claims with such pertinacity that the faculty were impelled to take action in the matter, which has resulted in excluding them entirely in future from everything except the lectures of Prof. Gustav Braun."

— Batterburg (*British Medical Journal*) finds milk an agreeable and convenient solvent of quinine. One grain to the ounce is hardly perceptible to the taste. Five grains in a tumblerful of milk lose all their bitterness.

— Langenbeck has successfully extirpated the left kidney of a woman aged thirty-two.

EDINBURGH.

— We are indebted for the following notes to a correspondent who has recently had considerable experience in applying antiseptic dressings at one of the hospitals in this city: —

In Edinburgh one finds a new and an old Royal Infirmary. The new infirmary (not yet ready for use) is built wholly of stone and iron. It consists of a series of large, substantial three-story buildings connected by corridors. Each story of these buildings is occupied by one large ward.

The old infirmary is particularly interesting because here Professor Lister made his experiments with antiseptic dressings for wounds, and it seems an especially appropriate place for them, for besides being very old and dilapidated, it was shockingly dirty throughout. The wards were all square, and contained from eight to ten beds each, all being ventilated by an open fire. During the last nine months over two thousand patients have been treated here, and there have been about three hundred operations.

Professors Spence and Annandale are the surgeons in charge. Professor Spence, an elderly man, is a very good operator. He believes in the simplest possible dressings, often using a small wet rag or piece of paper covered with wax. Professor Annandale follows the methods of Professor Lister. While in his wards I saw some of these dressings. To one who has learned Professor Lister's method from books and hearsay perhaps the most striking facts were, that he used quite a large quantity of the carbolized gauze under the mackintosh and a very little outside it; that no sponges were employed, but small pieces of cloth, which were used for one dressing only; that the pus in the dressings was frequently examined microscopically, and if bacteria were found in great abundance the dressing was renewed oftener. All compound fractures were put up in plaster of Paris, with a Lister dressing over a fenestra.

There was one rather remarkable case of a true horn, three inches long and one inch and a half thick, growing from the cheek. Professor Annandale removed a malignant tumor from the nasal cavity by a new method, namely, having cut away the frænum and the other attachments of the upper lip from the upper jaw with scissors, the lip and nose were turned back and up on to the face, thus exposing the nasal cavity without an external incision. There was considerable hæmorrhage, though no vessel was cut, and after removing the growth the nares were plugged both posteriorly and anteriorly. It would apparently have been better to have plugged the posterior nares at the beginning of the operation The assistants and conveniences for operating are far inferior to those seen in Boston.

LA CHARITÉ HOSPITAL, PARIS.

CASE REPORTED BY M. J. HALLORAN, ACTING EXTERNE.

Very tight Traumatic Stricture of Urethra; Internal Urethrotomy with Maissonneuve's Instrument; Anuria until Death of Patient, Eighty-One Hours after the Operation. — On the 24th of July entered the service of M. Gosselin a patient, who, two months previously, had fallen on a board which struck directly against the perinæum. He experienced difficulty in urinating immediately afterwards, and the first water passed was bloody. From this moment he passed urine drop by drop; the day he entered very little escaped, and that contained pus in somewhat notable proportion. The patient had not had complete retention of urine. The following day (25th of July) M. Gosselin, after having attempted without success to pass a bougie with a bulbous end, tried every form of filiform bougie, first straight, then *en baïonnette*, that is, somewhat after the manner recommended by Brodie;[1] then he twisted the end of the bougie around a pin, so that it had an end somewhat like a corkscrew (*bougie entortillée*). This is a favorite form with M. Gosselin, and we have often seen him pass it when no other form would enter. He frequently recommends the device to his pupils; however, in this case it did not pass, and M. Gosselin not wishing to irritate the urethra too much did not pursue his attempts farther on that day. The day following, while attempting to insert the bougie, he injected oil into the urethra, but could not pass the stricture, which was extremely hard, almost gristly; from that time up to the 17th of August he tried patiently each day to pass the bougie, and during the last two days M. Berger, who was to take his place during the vacations, attempted also to enter, but without success.

The stricture appearing impermeable, the patient commencing to suffer during micturition, and the urine continuing purulent, M. Gosselin recommended to M. Berger, in departing, to perform external urethrotomy without a guiding staff.

A few days afterwards the patient succeeded in passing a very small filiform bougie, and the day following M. Berger passed the bougie No. 2, French scale (No. ½ English) by its side, instructing the patient to urinate with both in the urethra (a favorite method with M. Gosselin and his pupil, M. Berger), to enlarge the stricture by the urine passing by the side of the two bougies. The next day M. Berger withdrew one of the bougies, and fixed another to it which served to introduce the hollow guiding staff of Maissonneuve's urethrotome. On this he passed a middling-sized blade of the urethrotome, and divided the stricture from in front, cutting through it again in withdrawing the instrument. Then directly over the staff which had served to guide the cutting instrument M. Berger passed a No. 17 sound (No. 8½ English scale) with the end cut off. This sound entered readily, and was fixed in the urethra, the patient being directed to allow the urine to pass freely by it, and not to make the slightest effort in urinating. This introduction of a sound M. Gosselin considers as important to insure the success of the operation; in fourteen cases where he had passed no sound he observed ten times a distinct chill, while in twenty-one cases where he had passed a sound he had seen a chill in but six.[1] In forty cases operated on by Maissonneuve, where he had retained a catheter after the operation, there was but one fatal case. The patient, in this case, passed urine freely at first, colored with blood, by the sound, until the evening, when he had a violent and distinct shiver, followed by complete anuria, and at midnight he had a second rigor. His temperature in the evening was 39° Centigr., and the following day it mounted to 40° Centigr. On the second day after the operation he commenced to vomit; the anuria was complete, and there was not a drop of urine in the bladder. He suffered much in the renal regions; the temperature fell; he was much depressed; his intelligence became obtuse; and he succumbed eighty-one hours after the operation. The treatment during this period of uræmia had consisted in dry cupping on the lumbar regions, sulphate of quinia grs. xiiss. ad grs. xx. daily, alcoholic stimulants, milk, etc.

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[1] Vide Erichsen's Surg., 6th edition, page 726.

Post-Mortem Examination. On the mucous coat of the floor of the urethra was found the trace of the incision made by the urethrotome, about an inch in length; a little farther back was a small urinary abscess opening into the canal. There were old coagulations in the periprostatic venous plexus. No pus in the veins. The traces of suppurative inflammation were found in the kidneys. The other organs were normal.

It may not be uninteresting to add to this observation, which needs no comment, and in which M. Verneuil considered that the patient had succumbed to nephritis provoked by the operation, the kidneys being previously diseased, and the patient dying in exactly the same manner as certain patients in albuminuria, a few statistics relative to the operation by Maissonneuve's instrument. First, that of Maissonneuve himself: In one hundred operations, seventy performed with uncovered sharp blade, and thirty with the lithotome *caché* with no sound after operation, he had eleven deaths from the operation, and six from other causes; of forty cases operated on with uncovered urethrotome with blunt blade, and in which he constantly retained the catheter after the operation, he had but one death.[2] Gosselin, in thirty-five cases, operated on up to January 1, 1873, had lost but one, and in that the urine had passed during the operation.[3] While Teevan, in thirty-five cases, operated on by the urethrotome of Maissonneuve, as modified by himself, has not had a single fatal case.[4]

Thus, though it has been said that "a scratch on the urethra is not without its dangers" (Gouley), this operation is not so hazardous as it has been generally considered. In four hundred and eleven cases of stricture it was performed but eleven times (Teevan).[5] Yet it becomes a question whether it should not be performed in all cases where the stricture after several attempts at gradual dilatation proves refractory. A good example of the benefits sometimes resulting from this operation, the cure of a tight stricture which had caused several times perineal abscess and fistula, is the second case reported by M. Whitmore in the *Lancet*, December 27, 1877.

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[1] Leçons cliniques, vol. ii., page 228, 1st edition.

[2] Year Book of Sydenham Society, 1863, page 313.

[3] Leçons cliniques, vol. ii., page 227, 1st edition.

[4] Lancet, vol. ii., 1877, page 829.

[5] Lancet, vol. ii., 1877, page 829.

SHORT COMMUNICATIONS.

CIRCULAR LETTER TO PHYSICIANS AND OTHERS IN REFERENCE TO THE INVESTIGATION OF THE YELLOW FEVER EPIDEMIC OF 1878.

To Physicians and others residing in the Cities and Towns visited by the Yellow Fever: —

Acting upon the advice of members of the American Public Health Association, the Surgeon-General of the Marine Hospital Service has organized a commission to gather and record all important *facts* relating to the commencement and spread of the present epidemic of yellow fever, with the view of establishing truths upon which the theory and practice of prevention of future epidemics may rest.

The gentlemen composing the commission — Professor Bemiss, of New Orleans, Dr. Cochran, of Mobile, and Professor Howard, of Baltimore — have already commenced their work in New Orleans, and will visit the principal places in which the yellow fever has prevailed.

The cordial coöperation of all who have facts to communicate bearing upon the subject under investigation is earnestly solicited for the commission.

A preliminary report of the facts gathered up to the 19th day of November next will be presented to the American Public Health Association, which will convene on that day in the city of Richmond, to discuss the report, and to advise the best course to be pursued in concluding the labors of the commission.

It is not intended to terminate the investigation on the 19th of November, but it is desirable that those interested in public hygiene in all parts of our country should meet in council prior to the assembling of Congress, as it is generelly believed that legislative action will be promptly taken in reference to preventing future epidemics. The agitation of the public mind upon this important subject is proper and commendable, but herein lies the peril of hasty or not fully matured legislation, and it is hoped that by the action proposed Congress may have the benefit of the advice of the representative men of sanitary science.

The invitation of the officers and executive committee of the American Public Health Association, extended for the Richmond meeting, is to "medical and sanitary authorities and other citizens who seek to promote the public health." This will afford an opportunity for all who desire to advise in reference to the work in hand.

If the voluntary contributions of money for the expenses of the commission are sufficient, it is intended to add to the commission a sanitary engineer, a microscopist, and a meteorologist.

The first step in the investigation is, as already stated, an examination into the causes of the commencement and spread of the epidemic, now being prosecuted by the commission.

The second step is the study of the natural history of the disease itself, which will be undertaken if the contributions of money warrant.

It is believed that the study of the treatment of the disease should not be added to the labors of the commission. The contributions of experience in this direction will doubtless be numerous, and may be properly left to the medical journals of the country and to individual reports. Very respectfully, John M. Woodworth,

Surgeon-General U. S. Marine Hospital Service.

Washington, *October* 10, 1878.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XIV.

Office Surgeon-General U. S. M. H. S., Washington, *October* 12, 1878.

New Orleans, La. — There were 988 cases of yellow fever and 340 deaths during the week ended yesterday afternoon. For the last twenty-four hours, 164 cases and 49 deaths. The disease now prevails throughout the city. Total cases 11,206, total deaths 3400.

Port Eads, La. — One death from yellow fever occurred in the past week.

Baton Rouge, La. — Three hundred and ninety-seven cases of yellow fever and 35 deaths for the week ended nine a. m. yesterday. Total cases 1869, deaths 113.

Morgan City, La. — During the week ended yesterday there were 128 cases of yellow fever and 23 deaths. Total cases 428, deaths 71.

Ocean Springs, Miss. — Twenty-five new cases of yellow fever and six deaths for the week ended at noon yesterday. Total cases 103, deaths 28.

Pass Christian, Miss. — For the past week there were 35 cases of yellow fever and three deaths. Total cases 94, deaths nine.

Bay St. Louis, Miss. — During the past two weeks ended yesterday evening there were 208 cases of yellow fever and 36 deaths. Total cases 286, deaths 56.

Biloxi, Miss. — From commencement of outbreak of yellow fever to the 11th inst. there have been 275 cases and 28 deaths.

Port Gibson, Miss. — The yellow fever has spread into the country; at least thirty plantations surrounding Port Gibson are now infected. The deaths to date are estimated at 190.

Friar's Point, Miss. — There have been 13 cases of yellow fever and four deaths to yesterday evening.

Crystal Springs, Miss. — Total cases of yellow fever to yesterday evening 81, deaths 36. The fever first appeared at Dry Grove neighborhood, twelve miles northwest of Crystal Springs.

Hernando, Miss. — The first case of yellow fever — a refugee from Memphis — occurred August 31st. Twenty-three cases and 10 deaths during the past week. Total cases to yesterday evening 83, deaths 33.

Grenada, Miss. — Six cases of yellow fever and two deaths for the past week. Corrected total deaths to yesterday evening, 323.

Spring Hill, Grenada Co., Miss. — Fifteen cases of yellow fever and six deaths to yesterday. First case October 1st.

Vicksburg, Miss. —For the past week there were 33 deaths from yellow fever. Ninety-six deaths have occurred in Warren County, outside of Vicksburg. Total deaths in city and county, 978.

Holly Springs, Miss. — Total cases of yellow fever to October 8th, 1064; total deaths to that date, 241.

Jackson, Miss. — Between 30 and 40 cases of yellow fever reported to October 5th.

Memphis, Tenn. — There were 157 deaths from yellow fever for the week ended the evening of the 10th inst. Total deaths, 2784.

Brownsville, Tenn. — One hundred and thirty-nine cases of yellow fever and 35 deaths for the week ended yesterday afternoon. Total cases 413, deaths 121.

Paris, Tenn. — The first case of yellow fever among the inhabitants occurred September 6th. The first case of the fever among refugees August 23d. Total cases to yesterday evening 52, deaths 22.

Cairo, Ill. — Total cases of yellow fever to yesterday evening 31, besides five doubtful cases. Total deaths, 25. Assistant Surgeon Waldo, of the Marine Hospital Service, taken sick on Thursday, probably with yellow fever.

St. Louis, Mo. — No cases of yellow fever in the city. Three deaths at quarantine during the past week, two of which were refugees. The superintendent of the quarantine station is sick with yellow fever.

Louisville, Ky. — For the week ended yesterday evening there were 10 new cases of yellow fever and eight deaths, of which numbers nine cases and seven deaths were among the inhabitants residing in the infected portion of the city referred to in previous reports. Total cases 112, deaths 49. Of these, 88 cases and 34 deaths were refugees.

Cincinnati, Ohio. — No new cases or deaths have occurred since last report up to the 9th inst.

Mobile, Ala. — There were seven cases of yellow fever and three deaths since noon of October 4th to the 11th inst. Total cases 37, deaths 20.

Decatur, Ala. — The first case of yellow fever occurred September 7th. Total cases to yesterday evening 82, total deaths 15.

Key West, Fla. — Two cases of yellow fever occurred this week, the first since the 21st of September. Total cases 37, deaths 16.

Canton, Miss. — From October 4th to October 10th there were 90 new cases of yellow fever and 26 deaths. Total cases to that date 810, deaths 139.

Havana, Cuba. — Twenty-six deaths from yellow fever and three from small-pox; week ended October 5th.

No reports received from the following places where yellow fever exists: Greenville, Miss.; Mississippi City, Miss.; Water Valley, Miss.; Chattanooga, Tenn.; Grand Junction, Tenn.; Hickman, Ky.; South Pass, La.; Plaquemine, La., etc.

South America. — At Rio de Janeiro there were three deaths from yellow fever and 24 from small-pox during the week ended September 19th. Good health prevails in Barranquilla, New Grenada. Advices September 19th.

Europe. — In one hundred and thirty-two cities and towns of the German empire, having an aggregate population of 7,376,861, there were 3787 deaths from all causes for the week ended September 23d, being an annual rate of mortality of 26.7 per 1000 of the population. Among the deaths reported there were 104 from scarlet fever, one from typhus, 104 from diphtheria and croup, and none from small-pox. At Vienna, Austria, during the week ended September 14th there were 12 deaths from small-pox, two from typhus, three from scarlet fever, and 12 from diphtheria.

Africa. — A dispatch from the United States consulate at Gibraltar, September 23d, states that private advices from Tangier announce 103 deaths from cholera at Casablanca, Morocco, on the 17th of September, Moors, Jews, and Christians being attacked by the disease. At Fez the cholera is reported as increasing. Cholera has broken out in several other places in the interior of Morocco. At Mogadore, Morocco, the deaths from hunger and typhus are reported to be from sixty to seventy per day. The hungry Moors attacked the custom-house and British and Spanish consulates at that place, and were repulsed with loss.

Asia. — Thirty-one deaths from cholera in Bombay; week ended August 20th. No deaths from cholera in Calcutta for week ended August 10th.

John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

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COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Oct. 5, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	516	24.54	23.42	28.71
Philadelphia.	876,118	246	14.60	18.80	21.54
Brooklyn.	549,438	221	20.91	21.51	25.50
Chicago.	460,000	136	15.37	17.83	22.39
Boston.	375,476	120	16.62	20.10	24.34
Providence.	100,000	25	13.00	18.81	19.20
Lowell.	55,798	25	23.29	19.09	22.50
Worcester.	54,937	13	12.31	20.06	22.30
Cambridge.	53,547	16	15.53	18.69	20.83
Fall River.	53,207	27	26.39	21.35	24.96
Lynn.	35,528	10	14.64	20.42	19.67
Springfield.	33,981	5	7.66	16.02	19.77
Salem.	27,140	5	9.58	20.38	21.15

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Appointments. — Among the changes in the list of instructors at the Harvard Medical School we find the following appointments: Dr. F. W. Draper, lecturer on forensic medicine; Dr. C. F. Folsom, lecturer on hygiene; Dr E. G. Cutler, assistant in pathological anatomy.

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VOL. XCIX. — THURSDAY, OCTOBER 24, 1878. — NO. 17.

LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. IX.

BY DAVID W. CHEEVER, M. D.,
Professor of Clinical Surgery in Harvard University.

Gentlemen, — The two cases about to be presented, in their pathological and diagnostic aspects, are more interesting than anything else we have had during the present session. They exhibit two swellings, one of which is upon the breast, the other upon the nates, and are especially valuable because of the difficulties they oppose to a diagnosis.

Abscess under the Pectoralis Muscle. — The first of these cases is that of this young woman, who is twenty-eight years of age, unmarried, in fair health, but has remarked some diminution of the menses. Until Friday last she enjoyed her usual physical condition. She was then suddenly attacked by a severe pain, which involved the whole of the left side of the chest. Lifting or moving the left arm became very painful, and the patient found she could not lie upon that side of the body. She is now feverish; pulse 120; temperature has been as high as 102°, and is now 101°; her tongue is dry, and there are other indications of constitutional disturbance; uncover the chest and you see that the two sides have a very different appearance. The right is perfectly flat, and gives no evidence of being involved. The swelling is on the left side, but not in the breast itself, which is empty and flaccid. The dissimilarity between the two mammary glands is that although the distribution of the veins is the same in both, on the left breast they are much enlarged. Above this gland is a large fullness which obliterates the subclavicular hollow of this side. The two armpits also are unlike, the left being partly filled, the right empty. Since the patient came into the hospital the swelling has become markedly enlarged. The history is that of the rapid rise and development of a swelling, and of thickening of the neighboring tissues. When we have a suspicious and doubtful case of surgical enlargement or swelling, the first question to ask ourselves is, Is this swelling inflammatory or organic; is it an effusion or is it growth; is it an aggregation of leucocytes and fibrine, pushed out of the congested blood-vessels, or is it a proliferation of cells organized and permanent? The one is curable by absorption, or changeable into pus; the other is not. The one is hopeful; the other is not. The answer to this question, then, — inflammatory or organic, — settles the diagnosis, and often, also, the prognosis. The fever and high temperature make it obvious that something serious is going on in this patient. There has been one chill, which, if the fever had not been continuous, might intimate the presence of an abscess. But here fever has been a constant symptom. This gives rise to the question: Are there here inflammatory changes, indicating a deposit of pus, or a development of cells, leading to the formation of a tumor. I think the evidences are in favor of acute inflammation, for all the symptoms point in that direction. On the other hand, a rapidly growing tumor might develop insidiously, without being apparent until a given time, when the present symptoms of the case might suddenly appear. Incipient organic changes come on slowly, and without causing much disturbance; but inflammation is like a storm; everything is sudden, and the symptoms are severe. We have here an inflammatory swelling. Nothing in the previous condition or in the sex of the patient could have led to a chronic enlargement.

A patient recently came into the hospital with a large swelling, which obscured the axilla. In that case the symptoms were so far advanced that we found no difficulty in reaching a diagnosis of abscess. But here the trouble is still recent, and although there are heat, pain, and swelling the diagnosis is not so easy. What is the meaning of these enlarged veins? The probability is that swollen lymphatic glands and an effusion of plastic lymph press upon the axillary veins of this side, and thus shut back the blood in the veins of the mammary gland. In the child shown you the other day, in whose mouth was a fungous tumor, the growth had developed and forced out the teeth within three weeks. In this case the changes have all occurred in eleven days. My opinion is that here there is nothing more than inflammation and its results, for we have the evidence of heat, pain, and other symptoms. I show you the patient, and ask your careful attention to the case, because of its contrasts to the other of which I have spoken. I shall now aspirate the swelling in the axillary region, which you would naturally say is a tempting place, and which is more so now than previously. When I raise the left arm of the patient, the pectoral muscle, as you see, is thrown into bold relief. In case of abscess in this location pinch up this muscle, thus, and carefully insert the needle beneath it and parallel with the ribs, as I now do. If I get no pus, will that prove that there is no abscess? No, it will not. You will remember the case of the other day, in which there was a swelling over the tibia. On the introduction of the needle we fully expected pus would appear, but we found a hard tissue, mottled with lumps of lymph, and looking like Bologna sausage. Before I insert the needle I think it well to incise the skin with a knife, in order to avoid clogging and blunting the point. The blood follows the incision quickly, showing the congestion of the part. The easiest method of introducing the needle is to separate it from the aspirator, and, having oiled it, to *rotate* it slowly into the abscess. Pus flows, mixed with blood, but it comes very slowly, and contains thick flakes, which will not pass through the needle. In acute cases of this nature the aspirator frequently disappoints us, because the matter will not run through so small a tube. I therefore lay it aside, and enlarge the opening into the cavity of the abscess. Introducing my finger, I find a cavity of moderate size filled with flakes of pus, venous blood, and pus in the formative stage, a few drops and flakes of which are enough to settle the diagnosis. The abscess will now be poulticed, and the patient put to bed. In a week we shall probably see a free flow of pus.

NOTE. The patient steadily improved; suppuration and absorption ensued.

Soft Malignant Tumor of Nates. — This case is more interesting. The locality of the man's disease forces him to lie upon his stomach, and also to take ether in the same position.

The patient's parents died in old age, and he is now forty-three years old. Fifteen years ago, by a railroad accident, he lost his leg at the upper third of the thigh. His present trouble involves the nates and a portion of the thigh of the other leg. Seven months ago a small lump of the size of a walnut appeared near the sacrum. Three months ago the swelling was aspirated in the out-patient department. Only blood followed the puncture. Since that time the growth has been slowly and steadily enlarging. Pain has been incessant, and morphia has been administered until it has become a necessity. The pain has extended down the leg, but not up the back. The patient came to us in this condition three days ago. I now show you the tumor. You see a swelling, very remarkable in size and shape; discoloration beneath the skin, and ecchymoses in several directions. The enormous growth involves the entire natis of one side. The first question is as to its nature. The view I now hold is that the age of the patient, the size of the tumor, its painlessness until large enough to press upon the nerves, its slow development, and the absence of pus on aspiration are symptoms which indicate the growth of a tumor rather than the effect of inflammation. But I may be wrong, in which case comes the assurance that nothing teaches so impressively as a mistake. One evidence of a tumor is these knobs on the surface of the swelling. Perhaps it is both a tumor and an abscess. This remark has an anomalous sound, but may be thus explained: a tumor begins to develop; during the process it obstructs the circulation; pressure upon the vessels being set up inflammation begins, and effusion and pus form. This explains, too, the course of a surgeon who, with sarcoma in mind, plunges his knife into pus, thinks he has found a cold abscess, and so leaves it. I once had such an experience; the abscess never healed, but fungated and grew until it destroyed life. This patient is not strong enough to bear a lengthy etherization. I will therefore at once introduce the needle, and see what it brings into view. I get nothing, yet am convinced that the swelling has a large cavity, for the needle can be moved in all directions. We will now try a trocar of moderate size. Remember that there has been no injury here; there is no evidence that the tumor is a hæmatoma; neither is there fluctuation. Here is a little lymph-like fluid, which looks suspicious. I introduce a still larger trocar, and through it pass in a probe, which enters a distance of six inches, and touches the pelvis, but the fluid is not thin enough to flow through even this large trocar. A lump of soft curd, resembling sago, now comes out, and leads me to think this may be encephaloid disease; still I am not yet positive that it is not an abscess in the process of breaking down. I enlarge the opening and pass in my finger. I can now say that the swelling is a spongy mass composed chiefly of these curdy lumps. There is no cavity. The soft consistence of the tumor not only made semi-fluctuation apparent, but by allowing the probe to move about freely also gave the impression that a cavity existed. The fact that they show how dissimilar forms of disease take their rise renders both these cases very instructive. Here, for example, is what seemed to be a large cavity, — something like a toy balloon filled with pus. To the finger it is actually a mass like a tapioca pudding. The general appearance and cachectic condition of the patient at first gave us the impression that the swelling was an enormous cold abscess. Eventually this tumor will degenerate into a fungating mass. One of these sago-like lumps will be submitted to the microscope, and that will settle the diagnosis.

In regard to prognosis it must be said that the disease can have but one termination, and that a fatal one. We can do little or nothing, for the tumor of course cannot be removed by the knife. If the patient escape the rupture naturally consequent upon what we have already done, the tumor in a few weeks will burst of itself, and he will wear out and die. The disease is probably not confined to this locality. It has been steadily developing for seven months, and has perhaps extended internally into the pelvis. I am reminded here of a case I saw in consultation, in which after death a similar but smaller growth proved to have originated within the pelvis, and to have separated and emerged through the sacro-iliac junction.

Note. The microscope showed the sago-like masses to be made up of an infinite number of growing cells. The patient died six days later without hæmorrhage, but probably of embolism. No autopsy was allowed.

Lithotomy at Twenty-Three Months of Age. — This little boy has had trouble in micturition for a number of months. As it was thought to be partially due to an irritation from a long foreskin, he was circumcised two months ago. Although the wound has perfectly healed, and the glans penis is pale and free from inflammation, yet the frequent and painful micturition has not been relieved. He now is brought by his parents for farther examination. First he is to be etherized, and then we will explore the bladder. I select a Thompson's sound for this exploration, because it has a very short curve. A long-curve catheter enters the bladder of the very young with great difficulty.

As soon as we enter the bladder the sound strikes a hard, rounded, and movable substance. It is a stone, and of course must be removed, and at this youthful age lithotomy is the operation. Crushing is not to be thought of. The mortality after lithotomy increases steadily with age. Past middle life it is often fatal. In childhood it is rarely so. We must remember that at this age (under two years) the prostate is so small an organ that an incision into or the removal through it of a moderate-sized stone must cut or tear beyond its circumference and its investing fascia. This probably always happens in cutting for stone at a tender age. Yet recovery is the rule. Before operating I introduce a small grooved staff. This staff has the groove toward the right side, and not in the middle. It is an imperative rule that the surgeon must touch the stone with the staff just before cutting. I make a straight, linear incision between the bulb and the anus until I reach the groove in the staff. Then, guided by my finger nail, I place the point of my knife in the groove, and, depressing the handle of the staff, cut more laterally, through the membranous and prostatic portions of the urethra into the bladder. Now pass in a director through the wound into the bladder; withdraw the staff; explore the bladder with the index finger. There is just room between the rami of the pubes and ischium to pass the finger. The stone is readily touched. I extract it with polypus forceps; ordinary lithotomy forceps are too large here. The stone, which I now show you, is as large as three fourths of an English walnut, flattened and oval. We wash out the bladder with cold water, insert an elastic catheter, and fasten it in. The wound is *not* to be packed (unless to check severe hæmorrhage), because that favors infiltration of urine. The catheter will be removed to-morrow. Then the water will flow through the wound. During the second week some will pass by the penis. The wound will close, at this age, in three to four weeks.

NOTE. In this case the urine began to pass through the penis on the fourth day, which is much sooner than in similar cases in the adult. The reason is that in this child the operation was the median and not the lateral. In a patient of the age of this one there is not sufficient room to do the lateral operation. To-day (seventh day) the case is doing well.

A CASE OF MITRAL INSUFFICIENCY, WITH EMBOLISM OF THE LEFT VERTEBRAL ARTERY.

BY J. W. KEENE, M. D.

THE patient, T. C., a married man, forty-eight years of age, was attacked on the night of December 19, 1877, with severe pain in the præcordia, attended with nausea and vomiting. The pain was described as "tearing" in its nature, and radiating from the præcordia across the sternum, down the left side, and upward to the shoulder. The patient complained much of the "fluttering" of his heart. He had been subjected to considerable excitement during the previous day on account of finding a sum of money in his store, and seeking for the owner, to whom he returned it. The surface was pale and cool; the aspect of the face anxious and distressed; temperature not notably increased; pulse 130, weak and fluttering, usually much stronger in the left radial artery than in the right. The impulse in the two arteries was synchronous, and at times of nearly equal strength. The patient had noticed the difference himself. In this regard the case resembles one reported by Dr. Hamilton Osgood in the *American Journal of the Medical Sciences* for October, 1875. In the case reported by him, however, the pulse was stronger in the right than in the left radial, — the reverse of the condition in the case under consideration. Much palpitation was felt when the hand was laid upon the præcordia, but this did not seem to affect the pulse as felt at the wrist. No cardiac murmur was detected. An examination of the urine, made the following morning, gave negative results both microscopically and chemically. No history of arthritis or of renal disease in any form could be obtained. He had usually been healthy, except that he suffered from hæmorrhoids, and was also subject to "bilious attacks," attended with pain in the epigastrium. These attacks invariably yielded to domestic remedies, — a sinapism usually sufficing. He had an attack of acute pleuritis in the left side ten years ago, but had not suffered from dyspnœa on exertion, nor did he suspect himself to be affected with heart disease, although both his parents were said to have died of it in some form, and his living brother and sister were sufferers from the same cause. The case was diagnosticated as angina pectoris. The pain was relieved by morphiæ sulphas, one sixth grain, administered hypodermically. The vomiting was arrested by creosote, and the tincture of digitalis was prescribed to be taken in doses of eight minims four times daily. Attendance was continued nine days, during which the urine was several times examined chemically, with negative results, and repeated examinations of the chest failed to detect any cardiac murmur. The heart's action gained in strength and lessened in frequency; the appetite continued good, and the bowels regular, though he was usually a sufferer from chronic constipation, and had contracted the syringe habit, using enemata almost every day. He slept well, but was annoyed by troublesome dreams. He was now told what his disease had been, and cautioned not to exert himself suddenly, or to allow himself to become excited.

The patient was next seen February 20, 1878. He then complained of not sleeping well, and not recovering his usual strength. He was able to attend to his business in part, but noticed that any exertion whatever caused his pulse to rise to 120 or 130. On walking rapidly about the room the accuracy of his observation was manifest, the pulse rising from 104 to 124. The usual rapidity of the pulse was at this time about 100. He was given a tonic, directed to use the bromides of potassium, grains xx., and ammonium, grains x., at night, and to continue the digitalis in the same dose as before, omitting it for three days after using it ten.

On March 3d, the symptoms were aggravated. Marked dyspnœa was manifest, the respiration being 35 to 40 per minute. A well-defined murmur was heard at the apex of the heart corresponding to the systole. There were subcrepitant râles over the left lung, especially the lower lobe, and to a slight degree in the right lung. Pulse 130, thready and feeble. Alcoholic stimulants were well borne, and the pulse gained in strength. As the patient had slept very little for several nights, despite of the use of bromides, a hypodermic injection of sulphate of morphia, grain one eighth, was administered, after which he slept for several hours.

An examination of the urine at this time gave the following result: Amount very small; color dirty, yellowish white; reaction strongly acid; specific gravity 1030; urea slightly increased; albumen two per cent.; sugar absent; no blood, pus corpuscles, or casts; oxalate of lime crystals; opaqueness due to urates.

March 5th. The signs of pulmonary œdema were well marked in both lungs; the heart murmur less distinct. Some cough.

March 7th. A consultation was held with Dr. F. I. Knight. Physical examination resulted as follows: Area of cardiac dullness increased; systolic murmur at apex, and first sound as heard at apex, tolerably strong. On percussion behind, flatness was manifest below the angle of the scapula on the right side; good resonance over lower part of left side. Subcrepitant râles over lower part of left chest, and to a less marked degree over lower part of right chest. The diagnosis was made of insufficiency of the mitral valve, with pulmonary œdema, and an effusion into the right pleural sac. It was remarked that the effusion did not exist in the left side also, as is usual in dropsical effusions. Prognosis grave.

Treatment. The tincture of digitalis was replaced by a pill containing pulv. digit. gr. one half, pulv. colchici grs. two; one pill to be given three times daily. Acetate of potassium as a diuretic, grs. xv. every three hours.

During the evening the patient was seized with an attack of vomiting, followed by dry retching. Creosote was given, but without completely arresting the nausea. Dyspnœa was more marked, and coarse mucous râles were heard in both lungs, plainly audible in any part of the room. The patient was left at twelve o'clock comparatively comfortable. The respiration was not above 38; cough somewhat troublesome, and occasional sensations of nausea.

At two o'clock A. M. of the same night I was summoned in great haste, the messenger stating that the patient had had an "explosion" in his head, and was thought to be dying. He was found with a pulse too rapid to be readily counted; respiration about the same as when left two hours before; countenance portraying great solicitude and fear; perfectly conscious, and able to converse. The surface was cool and clammy; the extremities were cold. He explained that a "gun went off in his head." The attendants stated that he did not lose consciousness even momentarily, but exclaimed that something had happened in his head. His mouth was drawn far to the right side; the left eyelid did not close with the other. The tongue was protruded without material deviation from the median line. There was no apparent loss of motion in the limbs of either side. He could press equally hard with either hand, and could move the legs at will. Speech was interfered with, but he could readily make himself understood. The distortion of the lips would probably account for the disturbance of speech. He complained that the right limbs and the entire right side were numb, and the latter seemed far less sensitive to pinching or touching than the other side. The conclusion reached was that an embolus had lodged in one of the arteries of the left side of the brain. Paralysis of the muscles of the left side of the face was manifested by the loss of control of the left eyelid, and by the opposing muscles drawing the mouth to the opposite side. The material loss of sensation in the right limbs and side with no perceptible loss of motion was a point of interest. The pulse fell gradually to 124, the respiration being 36, labored and heavy. The coarse mucous râles in the larger bronchial tubes were more distinctly heard in all parts of the room. He complained of less ability to expectorate than formerly, and had been unable to take his medicine. A fomentation of digitalis leaves was applied over the kidneys, which gave some relief, but failed to urge them to action. He sank rapidly, and died of apnœa at eight A. M.

Autopsy March 9th. Present, Drs. E. G. Cutler, Morong, and Chenery. The following notes were kindly furnished by Dr. Cutler, who performed the autopsy: —

"Hours after death, thirty; post-mortem rigidity marked. On opening the head the membranes were not remarkable. The convolutions of the convexities were somewhat flattened. The left vertebral artery, near its junction with the right to form the basilar, was plugged with an embolus of a tawny yellow color, behind which was a dark-red coagulum. The commencing portion of the left posterior cerebral artery was also plugged by a similar clot. No difference was perceived in the gross appearances on section of the brain on the two sides. The puncta cruenta were slightly marked on both sides; the lateral ventricles of the brain by estimation contained about two ounces of a clear serum. On opening the thorax the right arch of the diaphragm was a little lower than the left. The former was at the sixth rib in the mammillary line; the latter was at the fourth intercostal space or upper border of the fifth rib. Somewhat more than one quart of clear, yellow serum was estimated to be in the right pleural sac. The right lung was very much contracted, and was separated from the chest wall at every point, even at the apex, but, aside from retraction and the presence of some frothy mucus in the bronchial tubes, was not remarkable. The left lung was closely bound to the chest wall everywhere by dense fibrous adhesions, and also to the diaphragm. On section it was quite œdematous, and its bronchi contained frothy mucus.

"The heart was full of blood, and in a state of distention on the right side. There was a clot in the left auricular appendage; the time of its formation was probably shortly before death. The left ventricle was hypertrophied; aortic valves sufficient; auriculo-ventricular opening admitted two and one half fingers. The posterior segment of the mitral valve was thickened and shortened in the centre so as to be scarcely perceptible. The muscle was of good consistency and color. Except the kidneys the other organs were not remarkable. The left kidney was about twice the normal size. The right kidney was reduced to an irregularly knobbed closed sac, nearly the size of the fist. On section it was found to have walls of variable thickness, averaging two lines, and to be hollowed out into several pouches filled with a white substance of a thick, pasty consistence. The microscope showed this substance to be granular fat, granule cells, and cholesterine plates. The ureter was perfectly closed at the point of its origin from the pelvis of the organ; in the rest of its course it was normal.

"The source of the embolus was not determined."

The unilateral effusion into the pleura, contrary to what usually obtains in effusions of a dropsical nature, is explained by the fact that the left pleural sac was obliterated by the adhesions found there, — the result of the pleuritis mentioned in the history of the case. The condition of the kidneys is interesting from the absence of the history of any disease of those organs, or of pain in that region. It seems probable that the occlusion of the ureter was caused by a subacute pyelitis, the walls gradually thickening, and the calibre of the canal diminishing so slowly that the left kidney was able to accommodate itself to the increased work of renal elimination, until at the time of complete closure of the canal the organ of the opposite side had become considerably hypertrophied and capable of performing its own work and that of its fellow, while its useless associate gradually underwent the degeneration above mentioned.

Is it possible that what the patient called bilious attacks were in reality passages of renal calculi? The history hardly warrants this conclusion, yet, in view of the tendency of the laity to attribute all sorts of symptoms to biliousness, is it not possible that these attacks, the history of which at best is obscure and unsatisfactory, were due to this cause, and that the missing link in the sequence of cause and effect in the case under consideration may be thus supplied?

A CASE OF LEUKÆMIA.[1]

BY A. T. CABOT, M. D.

The patient was a woman of fifty-seven. The history in brief is that during the past year she has gradually lost flesh and strength, and frequently has suffered from feelings of uneasiness in the epigastrium and left hypochondrium, accompanied by loss of appetite and annoying constipation. For the past two months these symptoms have been continuous, gradually increasing in severity, until towards the close of life pain in the regions mentioned became excessive, and was accompanied by great tenderness. An ill-defined tumor was to be felt projecting slightly from beneath the false ribs on the left side. A nodule was also to be felt in the epigastrium. On account of the thickness of the abdominal walls and the great tenderness, the relations of these tumors to each other could not be well made out. An examination of the urine showed a very large sediment of uric acid crystals; otherwise nothing abnormal. About a fortnight before death the skin, which had before been pale, assumed a decided lemon-yellow tinge. Her throat at this time was painful, the fauces were red and dry, and covered with tenacious mucus. The glands on both sides of the neck were swollen. Four or five days before death a number of hæmorrhagic spots appeared on the breast and abdomen.

Autopsy twenty-four hours after death. The lungs were healthy. The heart was abnormal only in being pale and flaccid. The clots in the heart, as in other organs, were found to be yellowish-white throughout, with no red portion.

The spleen measured seven and one half inches in length, four and one half inches in breadth, and two and three fourths inches in thickness. It was attached to the parts in its vicinity by recent fibrinous adhesions. The larger part of the spleen was in a condition of cellular hyperplasia, the pulp concealing the follicles and septa. Other considerable portions had undergone an inflammatory process, which had left them somewhat indurated. The perisplenitis was for the most part confined to the surface of the latter portion of the organ. Besides these more extensive changes, there were at and near the surface of the spleen several firm masses of a whitish-yellow color, wedge shaped, with their apices directed toward the hilus. Although no embolism of the vessels supplying these parts could be made out, still they were probably old hæmorrhagic infarctions. Scrapings from the cut surface of the spleen put under the microscope showed a few cells containing one, two, and three red blood cells and many red blood corpuscles, which, in addition to their own proper outline, were surrounded by another membrane, in some portion of which a nucleus could generally be discovered.

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[1] Read before the Suffolk District Medical Society, March 30, 1878.

The kidneys were anæmic. Upon one of them, between the capsule and parenchyma of the organ, was a grayish tumor of about the size of a bean. From the surface of the kidney in contact with this a gray wedge of tissue extended down into the cortical substance of the organ. The tumor consisted of lymphoid cells, and the grayish tissue beneath, and while retaining the connective tissue net-work of the organ, contained no trace of the epithelium of the tubes, its place being occupied by lymphoid cells. In other parts of the organ these cells were found among the proper elements of the kidney, which they had not yet succeeded in destroying. In one suprarenal capsule, between the inner layers of the medullary substance, was a cavity containing about a drachm of a reddish-brown fluid, and on its wall was the fibrinous portion of a tolerably recent clot. The other was normal, with the exception of a few grayish points of lymphoid tissue in the medullary portion.

The liver was pale, and thickly studded with fine grayish points. The blood in the vessels was extremely rich in white cells, rather smaller than ordinary white blood corpuscles. Microscopic sections of the hardened liver showed the acini separated from each other by a broad net-work of round cells. The spaces between the individual cells of the acini were occupied by narrow lines of similar cells, which in many instances could be distinctly seen to be in the capillary vessels. The digestive track offered no noticeable changes. The retro-peritoneal glands were much enlarged, especially behind the pylorus, where there was a mass of the size of a small fist.

RECENT PROGRESS IN SURGERY.

BY J. COLLINS WARREN, M. D.

Operations on the Inverted Head. — Dr. Julius Wolff, in a late number of Volkmann's lectures,[1] gives an interesting account of his experiences with this method of avoiding the flowing of blood into the trachea. It was invented, he says, by Rose, and consists in placing the patient on his back during anæsthesia, and allowing the head to hang at right angles with the body over the end of the table. The danger of operating upon the throat and jaws in the erect posture we well know. Profound anæsthesia renders the air passages insensible to the presence of blood, and it requires but a moderate amount to interfere seriously with respiration. The writer suggests that blood may not only flow, but may even be drawn into the trachea by a deep inspiration, and also mentions cases where an amount of blood not sufficient to produce dangerous symptoms during the operation caused subsequently fatal bronchitis and pneumonia. The amount of blood swallowed is thought sometimes to bring on fatal disturbances of the digestive apparatus, as occurred apparently in one of the author's cases. To avoid these occurrences it is necessary in certain cases to insert a tracheotomy tube and plug the pharynx, — a very serious addition to any operation. On the other hand, with the head in the inverted position the blood flows readily from the mouth and nostrils into a basin below, and respiration goes on unimpeded. The head is in a convenient position for operating, and the mouth is much more easily illuminated and approached than in the usual position. Dr. Wolff employs this method in a large number of operations, including not only those in the mouth but on the lips and face; also in tracheotomy, for which the position of the neck is particularly favorable, the trachea being drawn out much further from the thorax, and the soft parts being made more tense over it than in the usual position. So far from being dangerous during the action of chloroform, it is supposed to offset the tendency to anæmia of the brain caused by that drug. The disadvantages of the method are: the extra amount of bleeding caused by the dependent position; but this is not much greater than ordinarily occurs. Patients complain of considerable stiffness of the neck and headache after the operation, and Rose has suggested that if the head is swung back too rapidly into the horizontal position dislocation might occur. To offset the disadvantage of extra hæmorrhage in excision of the upper jaw, Volkmann separates the cheek from the jaw and cuts through the malar and nasal processes while the patient is upright; then changes the position and cuts through the gums and palate. Dr. Wolff has performed a number of operations for the relief of cleft palate in the inverted position, and finds it far superior to any other.

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[1] Sammlung klinischer Vorträge, No. 147, September, 1878.

Abdominal Taxis in Intestinal Obstruction. — Mr. Jonathan Hutchinson contributed an interesting paper, entitled Notes on Intestinal Obstruction, its Diagnosis and Treatment, to the medical section of the British Medical Association at its annual meeting. The author advises strongly against exploratory operations. He says of this operation: —

"Let no one compare abdominal section under such circumstances with ovariotomy, or urge that recent observations as to the tolerance of the peritonæum afford legitimate encouragement to boldness in these cases. It is one thing to diminish the abdominal contents by the removal of a large tumor, and to deal with intestines which are healthy and empty; it is another and very different task to open an abdomen distended almost to bursting by inflated bowels which are in a state of disease and ready at various points to give way. However careful the operator may be, it is almost certain that he will finish in having half the intestines outside, and in being at his wits' end to get them back again; with, perhaps, the added horror of a rupture of the bowel and unlimited extravasation of fæces."

Under the term abdominal taxis are included all measures designed to effect the reduction of loops of intestine which have become twisted, misplaced, or strangulated, within the cavity of the abdomen. Chiefly, it implies putting the patient under an anæsthetic, and then alternately lifting him by the legs and shaking him in the inverted position; then forcibly kneading the abdomen, giving enemata in the inverted position; and, lastly, making him lie for long periods on the belly, with the pelvis elevated. He has practiced this kind of treatment in many cases, and has never once opened the abdomen without knowing with tolerable certainty what he might expect to find. Whenever the diagnosis was uncertain he has steadily refused to operate, or, if the case were not his own, has done his best to dissuade the surgeon in charge.

In speaking of those cases where the precise cause of obstruction has been definitely diagnosticated, which occurs in a very limited number of instances, he advises in cases of invagination abdominal section. "Here," he says, "the surgeon knows what he is going to attempt, and that in the majority of cases it can be easily accomplished. The operation is justifiable at a comparatively early stage, when there is not much risk of rupture of the bowel, and but little difficulty may be expected in getting the contents back into the abdomen. Yet even here the operator encounters the discouragement of knowing that nature is competent to the cure by sphacelus of some of the most desperate forms of intussusception, and it is not yet settled whether leaving them to this chance involves less or more risk than operating. My own opinion is, however, definite; and in any such case, enemata, insufflation, and other measures having had patient and repeated trials, I should not hesitate to open the abdomen. I have done this in two cases, and in one of them with perfect success; and successful cases have also been recorded by Mr. Howard Marsh, Mr. Howse, and other surgeons. In the peculiar form of intussusception beginning at the cæcum and advancing until the inverted ileo-cæcal valve presents at the child's anus, I should suspect that an operation will always be required, for I know of no reliable record of the recovery of such a case, either by gangrene or by the measures to which we may apply the name of rectal taxis."

He gives the following memoranda for treatment: —

"(1.) In all early stages, and in all acute cases, abstain entirely from giving either food or medicine by the mouth.

"(2.) Use anæsthetics promptly. Put the patient under the full influence of ether; examine the abdomen and rectum carefully before tympanites has concealed the conditions; administer large enemata in the inverted position of body; and, if advisable, practice abdominal taxis. If you do not succeed at first, do it repeatedly.

"(3.) Copious enemata, aided perhaps by the long tube, are advisable in almost all cases, and in most should be frequently repeated.

"(4.) Fluid injections may be sometimes replaced by insufflation of air in cases of invagination, since air finds its way upwards better, and is more easily retained. It is, however, somewhat dangerous, and has perhaps no advantages over injections with the trunk inverted.

"(5.) Insufflation is to be avoided in all cases of suspected stricture, since the air may be forced above the stricture and there retained.

"(6.) Saline laxatives are admissible in certain cases where impaction of fæces is suspected, and in cases of stricture where fluidity of fæces is advisable.

"(7.) Opium (or morphia) must be used in proportion to the pain which the patient suffers. It should be administered by the rectum or hypodermically, and should be combined with belladonna. If there be not much pain or shock, it is better avoided, since it increases constipation and may mask the symptoms.

"(8.) A full dose of opium administered hypodermically will put a patient in a favorable condition for bearing a prolonged examination under ether, and attempts at abdominal taxis.

"(9.) In cases of uncertain diagnosis it is better to trust to the chance of spontaneous cure or relief by repeated abdominal taxis than to resort to exploratory operation; or, in desperate cases, iliac enterotomy should be done. Operations for the formations of an artificial anus in the right or left loin may be performed whenever the diagnosis of incurable obstructive disease in the lower bowel is made.

"(10.) The operation for the formation of an artificial anus through the anterior part of the abdominal wall and into the small intestine should be resorted to only in certain cases of insuperable obstruction, in which the seat of disease is believed to be above the cæcum.

"(11.) In all cases in which the precise seat of disease is doubtful, but the large intestine is suspected, the *right* loin should be preferred. If the colon here be found to be empty, the peritonæum may be cautiously opened and a coil of distended small intestine brought into the wound.

"(12.) My last suggestion as to treatment is one which, speaking as I do in a medical section, I feel some delicacy in making. It is, however, I believe, a very important one, and it is this: that cases of mechanical obstruction are really surgical and not medical cases. They require manipulative measures both for diagnosis and for treatment, and they require them early. It is difficult to explain why it has come about that, as a rule, a physician is called in first, and nothing but drug treatment usually adopted in the early periods; and it is, I am convinced, much to be regretted. The surgeon is but too often asked to see the case only in the last stage, when it is thought that perhaps an operation may be desirable. At this period the abdomen is distended, and an accurate diagnosis impracticable; but, what is worse, the stage at which abdominal taxis is most hopeful has passed. My remarks do not, of course, apply when the medical attendant possesses the knowledge and exercises the functions of both branches."

(To be concluded.)

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

MARCH 30, 1878. Seventy-five members were present, the president, DR. HOMANS, in the chair. The records of the last meeting were read and accepted.

United States Pharmacopœia. — It was voted that the councilors be requested to appoint a committee to report upon the next revision of the Pharmacopœia.

By-Laws. — With regard to the revision of the by-laws of the society, which was proposed in order to make them conform to those of the other district societies and of the Massachusetts Medical Society, it was voted, on motion of Dr. Bowditch, that the subject be postponed until the next meeting, and that a printed notice of the changes proposed be sent to each member.

Carcinoma of the Conjunctiva. — DR. ALBERT N. BLODGETT read a paper on Carcinoma of the Conjunctiva, in a case occurring in the practice of Dr. H. Derby, who supplied the clinical history as follows: The patient is a clergyman, seventy-one years of age, native of Ireland. His mother is said to have died of cancer, but no definite clinical history of her case is known. He himself has been in feeble health for a number of years, has had his feet frozen, and is the subject of hernia. September 24, 1877, he presented himself, and complained of a small tumor on the conjunctiva of the left eye, situated at the inner edge and opposite the middle of left cornea, 2 mm. long, 1.5 mm. broad, and 1.5 mm. in height, of a peculiar whiteness, and having a granular surface, as if made up of numerous fine grains of sago. A livid redness surrounded it, gradually shading off into the healthy conjunctival white. A fortnight later the growth was 4 mm. long, 3 mm. broad, and 2.5 mm. high. Ether was administered, and the whole carefully excised October 8th. Healing was good. Two weeks later a very small similar growth was observed at the lower edge of the wound, and after consultation with Dr. Wadsworth was carefully excised under ether. Every trace of the growth was removed. The cornea remained clear and intact.

Dr. Blodgett gave a description of the histological character of the growth, which was carcinomatous, the microscopic view being represented by India-ink drawings. Medical literature contains but few cases where the description of this disease is so clear as to make a diagnosis possible. Many cases are recorded as indignant disease, scirrhus, cancer, epithelial disease, etc., where it is impossible in the present confusion of terms in pathology to determine in many instances what the disease may have been. The importance of a careful histological examination of tumors was pointed out, as well as the necessity of nomenclature in pathological growths which should be founded upon the histological structure of the growth, and not upon physical peculiarities. The proper designation for growths of the kind under consideration is *carcinoma*, rather than any of the names often applied to it, for this name carries with it a distinct idea of the structure of the tumor.

The primary development of carcinoma in a part of the body previously healthy was next described and illustrated by drawings from sections. The epithelium is the invading element in this disease, and forms massive trunks which plow the tissues in all directions, causing their destruction, and producing the enormous loss of substance sometimes observed. The ulceration is caused by the necrosis of the epithelium itself. It is well known that blood-vessels do not ramify in epithelium, but extend only to the boundary of the connective tissue, upon which the epithelium is developed as a covering. The cells of epithelium are proliferated from its deepest layers, and are pushed up toward the surface by the multiplication of new cells below it. For a certain distance upon its way to the surface the cell can absorb sufficient nourishment from the connective tissue to sustain its vitality, but when it is a little further removed from the connective tissue the nutritive supply is no longer sufficient, and the cell becomes shrunken, flattened, and dry, and is finally cast off from the surface as a scale of epidermis. If the epithelium takes a direction downward into the connective tissue, the march of the epithelial formation is followed by the necrosis of the same at a certain distance behind, thus producing a more and more extensive loss of substance. This may be proved in any advancing case of carcinoma; wherever the disease is active the microscope will show masses of cells penetrating into structures not before infected, and at a certain distance behind we shall find the necrosis of the epithelium as above described. The "bird's nests" are the result of pressure upon the necrosed epithelium, and are not always found. They are not of definite shape, but take any appearance which the pressure of the parts around may impart. The thick, indurated connective tissue around the masses of epithelium is due in great measure to the mechanical irritation of the epithelium, which acts as a foreign body in the tissues. For this reason the Germans call it *Reizungsgewebe* (irritation tissue). In cases of so-called scirrhus it is the hypertrophy and induration of the connective tissue surrounding the epithelial masses which cause the great hardness. In secondary deposits the same kind of epithelium is found as in the primary form of the disease.

The probability of recurrence of the disease in carcinoma of the conjunctiva seems rather less than in other parts of the body, for the reason that the disease in this location is brought to the notice of the surgeon at a much earlier period of its development than would be thought necessary in other situations There is now, after a lapse of six months, no sign of a recurrence in this patient, although no one would venture to say there was no danger of a return.

Dr. Wadsworth mentioned two similar cases in which he and Dr. Williams had operated, the eye having been enucleated in one instance, and a tumor, which undoubtedly was an epithelioma, having been removed in the other nine months before without recurrence. He thought that such tumors might not be so rare as had been supposed.

A New Theory regarding Myopia. — Dr. D. Hunt read a paper on Myopia, of which a *résumé* follows: —

Considering the anatomical facts presented at the last meeting, we believe that the form of the myopic eye is caused by increased growth of the brain tissue, which forms the optic vesicle; this increased growth is produced by causes similar to those that have effected the enlargement of the cerebral vesicles, the results of which we notice in the greater frontal development of civilized man.

The type of ciliary muscle characterizing myopic eyes is a production of the same agencies that effect the elongation of the globe; sclerotica and ciliary muscle form from the same layer of embryonic connective tissue, and at the same date.

The separation of the sheaths of the optic nerve represents an embryonic enlargement of the head of the optic nerve, also caused by the increased growth of the retina composing the optic vesicle.

Posterior staphyloma is the result principally of an increased growth of the embryonic ganglion of the fifth nerve; this ganglion and the optic vesicle enlarge at the expense of the layer of connective tissue situated between them; the posterior portion of the temporal half of the eye is developed in this layer of connective tissue. The augmented growth of the ganglion of the fifth pair, which is the principal agent in the causation of posterior staphyloma, encroaches directly upon the connective tissue forming the root of the first branchial arch. This results in a decrease of the protuberance of the maxillary structures formed from this arch; in other words, contributes to a decrease of prognathism.

Organic lesions that terminate in destruction of nerve terminations are generally not hereditary. We believe that the cause of this peculiarity is to be explained by considering the central nervous system as the active agent in producing hereditary changes; the sudden destruction of the nerve terminations prevents the long-continued and oft-repeated impressions upon the central nervous system that seem to be necessary to make any local peculiarity (the point of origin of the impressions) an hereditary trait.

Examining Table. — Dr. Chadwick showed a new table which he had devised for gynæcological purposes. It is described in full, with illustrations. in the *American Journal of Obstetrics*, April, 1878, and is for sale by Messrs, Codman and Shurtleff.

Cerebral Syphilis. — Dr. Ayer reported an interesting case of Cerebral Syphilis, which was published in the Journal, September 19, 1878.

Dr. Bowditch asked whether it would not have been allowable to use a mild mercurial course, as the iodide of potassium evidently did not give relief. In this case, when the end was certain death unless relief were obtained, and especially when the case was evidently syphilitic, would not the use of calomel have been proper?

The case reported brought back to Dr. Bowditch's mind that of a student in a seminary of this city, whom he was called to attend. The patient was about twenty years old, and had been gradually growing more and more ill for two years. He had most violent headaches, occurring especially in the night, destroying quiet sleep, and finally reducing not only the physical health, but also the mental powers, so that the patient had been obliged to give up all intellectual exercise, and was listless about everything. When Dr. Bowditch saw him, he was having intense headaches every night, and he seemed childish. He had been under the care of two physicians, one of whom thought he had softening of the brain, and the other diagnosticated a cephalic tumor. On close inquiry, the patient denied all syphilitic taint. There were no symptoms of that disease, unless this nocturnal cephalalgia were one. The patient had been treated during the two years with various remedies without effect. All those employed by Dr. Bowditch seemed useless, and gave no relief. Dr. Bowditch said that our fathers would have used mercurials in such a case, and he thought it proper treatment. Accordingly, discarding all other remedies, calomel alone was given, a grain or two grains daily, in divided doses, three times a day. The patient was directed to suspend temporarily the treatment as soon as any soreness of the mouth, or even a metallic taste, was felt. The result was that, for six weeks or more, the slightest soreness and ptyalism were kept up until the patient wholly recovered. Some relief began with the first trace of the mercury on the mouth, and it went steadily onwards to the perfect cure. It seemed as if something had been effectually overcome by the use of calomel.

Dr. Bowditch was well aware that one case would prove nothing. Dr. E. H. Clarke, when the case was read at another society, had asked whether it might not have been a mere coincidence rather than a consequence of the mercurials. The reply was that it was easier to believe the cure was a consequence of the continued use of the remedy than that, after two years of suffering and gradual prostration in body and mind, with constant headaches, relief, by a mere coincidence, should have suddenly begun, and gone on step by step, but comparatively quickly, to perfect restoration to health, without any relation existing between the remedy and the cure. Dr. Bowditch regretted that mercurials had not been cautiously tried in the case reported by Dr. Ayer.

Embolism of Left Vertebral Artery. — DR. J. W. KEENE reported the case, which is published in full, page 522.

Leukæmia. — A case of leukæmia was reported by DR. A. T. CABOT. It is published at length on page 526.

CARIES OF THE TEETH.[1]

THE treatise now under consideration is devoted to the thorough scientific study of carious teeth. That this may be followed to its full extent, the inquiry is necessarily directed to the pathological anatomy of the tooth, the ætiology, experimental pathology, symptoms, and treatment of the affection. That Dr. Magitot's qualifications are such as to render him capable of taking a broad view of the subject is to be inferred in part from the number and character of his titles, but more especially from the opinion expressed in the translator's preface, and constantly corroborated by the interested reader of the work. Some of the points which are likely to prove of interest to the physician may be briefly referred to.

The author makes an artificial division of caries into the superficial, middle, and deep varieties, according as the enamel, ivory, or pulp-cavity has become involved. The simplicity of this classification is to be seen by comparing it with the prevailing scheme in France, which comprehends seven distinct forms, each constituting "in some sort a different malady." Certain of these forms are regarded as wholly confounded, while almost all of them may be artificially produced in the course of simple and single caries.

The importance of hereditary conditions in determining the beauty and stability of teeth is referred to, though unfortunately these characteristics are less often met with than the defects of form and composition, attributable to the same general influence, as well as to disturbances arising during the development of the tooth before it actually reaches the surface. These disturbances may take place before the birth of the infant, owing to various affections of the pregnant mother, or may be acquired after the child has been born. The caries of the temporary teeth without appreciable cause belongs in the former series, while in the latter some of the causes are readily appreciable, as is later shown.

Numerous tables and diagrams are given, based upon the analysis of ten thousand cases of caries. These indicate the relative distribution of the affection as far as individual teeth are concerned. As regards sex, it is found that women are more prone to the affection than men, in the ratio of three to two. The bearing of age is also stated, and with reference to the decay of special teeth. From these tables the importance of local conditions in the mouth is inferred, and as caries is regarded merely as a chemical alteration of the tissues, Magitot considers that the occurrence of the disorder in certain races and families is due not to the inheritance of caries as such, but to structural predispositions which more readily permit the injurious action of local causes.

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[1] *Treatise on Dental Caries.* Experimental and Therapeutic Investigations. By DR. E. MAGITOT. Translated by THOMAS H. CHANDLER, D. M. D., Professor of Mechanical Dentistry in Harvard University. Boston: Houghton, Osgood & Co. 1878. Pp. 275.

This cartographic method of considering the subject evidently has a special interest for the author, who is found to be a member and important officer of the Paris Anthropological Society. He is led into an interesting and suggestive though brief consideration of the importance of race, based upon the examination of crania from various collections. The really valuable part of this section is derived from the data observed in France. The necessary statistical tables were to be found in the archives of the war department, as conscripts are exempt from military service in consequence of the loss of certain teeth or the decay of many. From these tables Magitot has been enabled to draw a chart, which is inserted at the end of the volume, and which shows, by means of shading, the prevalence of caries in different parts of France. From this chart and well-known characteristics — geographical and social — of the sections concerned, he is able to form a valuable opinion concerning the often maintained though evidently loosely made statements concerning the injurious effects of drinks, as water, wine, beer, and cider. So with reference to the influence of river-courses, the vicinity of the sea, the nature of the soil, the climate, and of the social condition of the inhabitants, all of which have been supposed to exercise a greater or less influence in the causation of caries. His study into the bearings of the chart have led him to the conclusion that in France race is of more consequence in the production of endemic caries than soil or surroundings.

The consideration of conditions existing in the mouth is necessarily of the greatest practical consequence, as the sufferer may be regarded as exempt from responsibility on account of race and other congenital peculiarities. It is in this part of the book that Dr. Magitot's experiments are to be found, which have proved so valuable in determining the more exact nature of the processes by which dental caries is brought about. The result of these experiments shows that the prime factor is an acid which dissolves the calcareous salts of the teeth. This is the real and constant element, though there are many others which serve as complications. The relation of putrefaction and the presence of germs are considered as secondary or concurrent phenomena. For the development of this acid, which may be of almost any variety, it is not even necessary to look for causes outside the organism, as the saliva and buccal mucus may contain its formative elements, even in perfect health and under physiological conditions. The effect of these secretions becomes all the more marked under pathological conditions, and the importance of frequent cleansing of the mouth in the acute febrile affections and in the various indigestions is insisted upon.

Most commonly, however, the causes are external, and are to be found in the various articles of diet, both food and drink, and in substances used medicinally or as cosmetics. The effect of the several dangerous ingredients is shown by experiments, the form in which they are taken into the mouth is stated, and the necessary precautions are given by the observance of which their injurious effects may be avoided.

Physicians as well as dentists are placed under obligations by Dr. Chandler for laying this important work before them. The well-earned reputation of American dentistry has been gained rather through the successful treatment of results than by the acquisition and promulgation of accurate knowledge as to causes. The community are in greater need of the latter than the former, and this need should largely be supplied through the physician, as he is first called upon for advice as to the best means of producing the best being. To him, therefore, the present treatise is to be commended as containing what he ought to know. The foregoing statement as to some of the contents of the book, and the manner in which they have been arrived at, should indicate that knowledge is to be obtained from the work rather than theory or hypothesis.

As professor of dentistry in Harvard University, Dr. Chandler's attention must have been early attracted to this book, and his opinion of its value may readily be inferred from his willingness to spend the greater part of two years in preparing the translation. But his work has been not only that of translator (and a most excellent one), for he has added such notes concerning the treatment of the affection as seemed to him advisable. These are the results of his individual experience, and will necessarily commend themselves to dentists. He has further added to his labors by the preparation of an index, one of the most important parts of any valuable work of reference.

The volume is illustrated from the original plates and wood-cuts, and is published by Houghton, Osgood & Co.

THE DUTIES OF THE MEDICAL PROFESSION CONCERNING PROSTITUTION.

Questions of this character have been so profusely debated, and so little that has proved satisfactory has been deduced from the various schemes devised for the extinction of the great social evil, that we should hardly venture into a discussion of a problem so apparently hopeless of solution did not the suggestions conveyed in a recent paper on this subject come from the pen of a writer whose opinions are entitled to respectful consideration. Dr. Gerrish has attempted, in an address delivered before the Maine Medical Association at its last annual meeting, to offer a plan, as he thinks, somewhat different from those which have hitherto been advanced. He sums up the views given in his paper in the following words: —

"We have seen that prostitution is becoming alarmingly common; that the methods of dealing with it which have been most extensively tried have failed to control it, or to limit the diseases which arise from it; that it is to be regarded as a disease of the body social, which we cannot hope to cure unless we remove the causes on which it depends; that the chief of these causes is ignorance, which creates a demand for illicit intercourse; that, while a lack of ordinary information and learning is conducive to depravity, it is ignorance of the laws of our being which is chiefly responsible for the mischief; that the proper and competent teaching of physiology and hygiene to the young would result in such an improvement of morals that, in time, prostitution would largely disappear for want of support and patronage; that, while education is the great means for removing the chief cause of the social evil, it is necessary to employ other measures of a curative character, such as punishment of sexual crimes, severe restrictions on the permanently diseased, and reformatory efforts; and that the medical profession, being in the best possible position to appreciate the evil and to apply the remedy, owe it to the community to undertake the educational work, and to establish the other measures suggested."

In speaking of previous methods he emphasizes the statement that attempts to suppress prostitution have failed from a lack of supporting moral sentiment in the community, and from the fact that women only are attacked. His criticisms on the method generally known as licensing are, we think, excellent, and expose clearly the failure of any such law to lessen disease or to increase morality. His own plan, it will be seen, may be summed up in the one word, education. Without indulging in "contumelious criticism," which the author appears to anticipate, we may say that there are many topics contained in this plan, such as the sexual relations of husband and wife, or the relation of parent to child in regard to instruction on sexual matters, on which, no doubt, much excellent advice may be given, but which hardly come within the scope of any practical scheme with which physicians in their professional capacity can concern themselves. In regard to the teaching of physiology and hygiene to the young, we believe that, although plausible, the attempt to include instruction in the physiology of the sexual functions is a plan which can never be carried out. The author admits that "the right book has yet to be written;" we have always maintained the opinion that it is not possible to handle this subject in such a way as to produce a book fit to be placed in the hands of young girls or boys, much less to be used by teachers in the schools. We cannot agree with Dr. Gerrish in his views on efforts at suppression of the vice, or in any plan to quarantine every person who has primary syphilis. "The prohibition of marriage of syphilitics" might no doubt be desirable, but is hardly feasible on grounds that we have scarcely space even to allude to. Another suggestion, namely, "free hospital treatment of all venereal patients," is, we think, highly desirable, and one that cannot be too strongly insisted upon by the profession, particularly in communities disposed to exclude individuals affected with such diseases from the protection of dispensary treatment. Finally, the "systematic efforts of the reformation of prostitutes" is a work which we would most cordially indorse, and one in which much more is to be accomplished than has hitherto been attempted.

Dr. Gerrish has handled a delicate subject in a skillful manner, but he has failed to convince us that it is the duty of the physician to advise public education in matters which should be left, we think, to the private judgment or tact of individual parents. We fear, indeed, that many long years will elapse before a solution of this great evil will be reached.

MEDICAL NOTES.

— In the *Berliner klinische Wochenschrift*, Nos. 24, 25, 1878, Professor Hueter reports the successful treatment of seventeen cases of erysipelas by the subcutaneous injection of carbolic acid. Details in translation may be found in the *Medical Times and Gazette* for September 7th.

— The *Medical Examiner* of London is said to be in a moribund condition. It was a sprightly journal.

— Mr. Richard Davy has been elected to the chair of orthopædic surgery in the Westminster Hospital of London. — Dr. Bardeleben has been appointed dean of the faculty of medicine in the University of Berlin. — Professor Hasse, of Göttingen, has been excused from the performance of his duties, at his own request, because of his age and illness.

— An aged forester has published the following in a Leipzig journal: "I do not wish to carry to my grave my much-proved cure for the bites of mad dogs, but will publish the same as the last service which I can offer to the world: Wash the wound perfectly clean with wine-vinegar and tepid water; then dry it. Afterward pour into the wound a few drops of muriatic acid, for mineral acids destroy the poison of the dog's saliva."

— Quincke finds, contrary to a natural supposition, that while there is a diminished secretion of urine during sleep, the reverse takes place immediately after waking, and that for some time afterward more urine is secreted than during any other similar period of the twenty-four hours. Quincke is unable to furnish a reason for this peculiar phenomenon.

— According to the *Lancet* the latest researches of Claude Bernard led him to conclude that the very alphabet of the opinions which have been so largely built up by the labors of Pasteur is erroneous.

— The *Lancet* says that "the relation of the amount of quinine eliminated by the urine to that taken by the mouth has been studied by M. Personne, with the object of determining what proportion is destroyed in the economy. He found that all the quinine which is eliminated by the urine and soluble in acids can be transformed into neutral sulphate of quinine without appreciable residue; also that a resinous material is obtained, insoluble in acids, and similar to that which is obtained during the extraction of the alkaloids of cinchona. Hence it is inferred that the quinine which is eliminated by the urine has not undergone any appreciable alteration or isomeric modification. These substances represent nearly one half of the quinine which is taken in, and hence at least one half must be destroyed in the economy."

— During the last nineteen years diphtheria has been the cause of 6802 deaths in the Australian colony of Victoria.

— The *London Lancet* (page 427) declines to notice a medical association "while the name of a female member is retained on the list."

— Carbolic acid is said to be a specific in cases of mosquito and wasp bites.

CHICAGO.

— Quite an important decision touching the powers and prerogatives of the Illinois State Board of Health has just been rendered by Judge Williams, of Chicago. The state board is by law charged with a double duty, — that of looking after the health of the State, and of looking after the doctors. No man by law is allowed to practice medicine in the State without a license from the board, unless he had been in actual practice in the State ten years prior to January, 1878. The board is empowered to revoke the license of any one for unprofessional conduct. They had threatened to visit this penalty upon one

Dr. N. T. Aikin, of Chicago, who had advertised in the daily papers in a very offensive way. Aikin therefore commenced proceeding before Judge Williams for a temporary injunction to prevent the board from carrying out their threat. The case was argued two days by able counsel on both sides. The claim of Aikin was that his license was property, as it was the means of his earning a livelihood; that the board in revoking it would clearly violate the provision of the constitution that no man should be deprived of life, liberty, or property without due process of law. The board presented affidavits of eight practitioners, representing all the 'pathies, to the effect that they had read the advertisements of Aikin, and considered them unprofessional and false.

In the course of the arguments the prosecution referred to the advertisement of an optician, in the daily papers, to which was appended the indorsement of eighteen professors in medical colleges in Chicago, and claimed that these physicians were liable to the same penalty that was visited upon the plaintiff. An article in the last number of the *Medical Journal and Examiner*, by Dr. Ingalls, in which the action of these professors was condemned, was read to sustain the position taken.

The court took the case under advisement, and in ten days rendered a decision, in which it sustained the board of health, and refused the injunction. He said it was by law an express function of the board to have supervision of the matters at issue, — to exclude empirics and raise the standard of medical acquirements. The legislature had clothed the board with wide discretion as to the professional conduct of physicians, which courts should not interfere with. "Equity would not interfere by injunction for the purpose of controlling the action of public officers constituting inferior quasi-judicial tribunals on matters properly pertaining to their jurisdiction." A license to practice medicine was like a license to practice law; neither was a constitutional privilege or property.

In no proper sense could the words "property" and "contract" be applied to the right to practice. Such right was not descendable from its possessor to his heir, could not be bought or sold, and might be lost by misconduct or immorality on the part of the practitioner. The right was merely a statutory privilege, and did not rise to the dignity of a contract or of property. The objection to the law on the ground of want of uniformity in its provisions was not well taken, for although the law should bear equally on all citizens who stood in the same relation to it, it could not be said that physicians who had practiced in the State ten years, and those who had not, stood in the same relation to the law.

There is a suspicion that now the right of the board to revoke a license for unprofessional conduct is established there are other heads beside that of the Chicago advertiser that are in danger.

— When the rules and regulations of the public (county) hospital of Chicago were amended last July, the county commissioners, in enmity to medical colleges, doubled the fees to students, fixing them at ten dollars per annum. On the 14th of October they were induced by the new medical board to reduce the price to the former standard of five dollars.

LETTER FROM LONDON.

The University of London: The Admission of Women.

Mr. Editor, — In a previous letter I gave some account of the legal status of the medical profession in Great Britain, and of the position occupied by the various corporations and universities. In my present letter my wish is to give some account of the University of London, which is one of the most important of the many licensing bodies of the United Kingdom, and foremost by its traditions and character in the introduction of reforms in the methods of study and of examination. The University of London was founded in the year 1836. Prior to that year there were three English universities, those of Oxford, Cambridge, and Durham, but the latter being only a small foundation for the use of the districts in its immediate neighborhood, it may be said that the whole of the higher education of the country was in the hands of the two ancient universities first mentioned. Like all corporations which are at the same time very old and very wealthy, the universities of Oxford and Cambridge had acquired a series of traditions to which they adhered most pertinaciously; they were conservative to the backbone, and no proposition for a change in their time-honored customs had the least chance of success at the hands of the governing bodies of those august seminaries. These traditions had been handed down from times when the constitution of society was very different from what it had become in the early decades of the present century. The University of Oxford had been the great stronghold of loyalty to the crown during the troublous times of Charles I., and it had been the headquarters of the Church of England during the ascendency of the dissenters under the Commonwealth and of the Roman Catholics under James II. It is not to be wondered at, then, that loyalty to the crown and to the church had become by-words in connection with the university, and that they were points upon which it was essential that all who were connected in any way with the university should be thoroughly sound. During the last century this sectarianism, if we may so call it, corresponded very closely with the general sense of the country. Most of the learning and refinement was to be found amongst the upper classes, who with few exceptions were loyal to the church. Dissent, on the other hand, was mainly confined to the lower middle and lower classes, who at that period had no aspirations beyond the conditions in which they had been brought up; whilst the troubles arising from Roman Catholicism were of sufficiently recent date for the "No Popery" cry to be one of considerable political importance. Thus learning came to be left almost exclusively in the undisputed possession of the Church of England.

So things went on until about the year 1820. At that time the country, which had been for many years occupied and exhausted by the Napoleonic wars, had to some extent recovered its strength, and was turning its attention to home affairs. The steam-engine was beginning to be largely used, and the impulse it was giving to trade and to scientific investigation tended to modify the whole tone of society, and profoundly to alter the relative positions occupied by its different classes. Now first began to be heard the clamor against the disproportionate power of the aristocracy; the Church of England received one check after another in the abolition of the Test Act, the Catholic Emancipation Bill, and in other ways; and the dissenters, who had previously been of small account in the state, began to make their power felt, both by their numbers and by the influence exerted by many of their leading men. As a consequence of the equalization of classes thus inaugurated came an increased demand for learning and for the advantages of a university education. Oxford and Cambridge, however, true to their traditions, refused to admit those who were not prepared to be baptized into the Church of England and to sign the thirty-nine articles. Being self-governing bodies, they were at liberty to act as seemed good to themselves in the matter, and hence all dissenters, Jews, and Roman Catholics were excluded from the means of obtaining a high education. By the nature of their constitutions it was impossible to carry the universities by storm against the will of the majority of their members, and hence came the necessity for starting some new educational body which should take the place of the older corporations amongst the large section of the population which was unable to partake in the benefits offered by the latter. So it came about that in 1826, owing to the exertions of a number of influential men, conspicuous amongst whom was Lord Brougham, a college was founded in London, to which the name given was the University of London. The object of this college was to afford a liberal education in all subjects, whether classics, mathematics, medicine, law, or science, to all those who could pay the fees, irrespective of race, creed, or position in life This, however, was only a teaching body, and did not grant degrees; hence it fulfilled but one of the functions of a university. It was not until 1836 that the project of supplying a substitute for the older universities was fully realized. In that year a charter was obtained from the crown which authorized the foundation of a body with full powers to grant degrees in all branches of learning except religion. This body was to be called the University of London, and the college which already bore that name was in future to be called University College, London.

The University of London thus created is a body whose functions may be said to be purely those of an examining board; with teaching it has nothing whatever to do. The principle upon which it acts is to grant its degrees to any one who can pass its examinations, without inquiring how the candidates have acquired their knowledge. It matters not whether they have come up from the older universities or from University College, London, or whether they have gained their knowledge by solitary reading in hours snatched from the routine work of a merchant's office or a bank counter. The doors of the university are open to all, and any one who can prove to the satisfaction of the examiner that he has the requisite knowledge is granted a degree which takes rank with the degrees of the more ancient foundations.

There is one necessary exception to the general and indiscriminate welcome thus held out to all comers: in medicine the requisite knowledge is of so essentially practical a character, and it is of such supreme importance to the community at large that the holder of a degree in medicine should be possessed of this practical knowledge, that the university demands from all candidates for examination in this subject proof of having enjoyed opportunities of obtaining it. It has drawn up a list of medical schools and colleges which it considers to be capable of affording the necessary instruction, and no one is admitted to examination who has not followed a course of study in one of them. The university goes further, and defines very explicitly what that course of study must be, and in this respect it is perhaps the most stringent of all the medical corporations in England. It is not enough that the student shall have pursued his studies for a certain length of time, and shall have attended the practice of a hospital for so many terms, but it is required of him that he shall pass his examinations at certain intervals, and that he shall employ the intervals in a certain definite way. It will be better understood if I give a short account of the regulations drawn up for candidates for the degree of doctor in medicine. The first examination to be passed is the matriculation, which is demanded in common from all candidates for degrees, of whatever kind. This, as elsewhere, consists of papers in classics, mathematics, modern languages, chemistry, etc., and is only such as any intelligent and well-educated lad of sixteen or seventeen can pass without much difficulty. Following this at an interval of a year is an examination in general science, including physics, mechanical philosophy, inorganic chemistry, botany, zoölogy, etc. This is followed, at the end of one year, or more frequently of two years by the first professional examination, in which the candidate's knowledge is tested in anatomy, physiology, organic chemistry, therapeutics, etc.; and in this examination the student is expected to dissect one or more regions practically, to prepare microscopical specimens, to test for substances occurring in organic chemistry, and, in short, to prove to the examiner not only his theoretical knowledge, but also his ready command of practical processes. Having passed this ordeal, the student is not allowed to present himself for the next examination until an interval of between two and three years has elapsed, during which time he must be engaged in hospital work and in practical obstetrics, and according to the strict rules of the university — which are, however, somewhat difficult to carry out in all cases — he must have spent at least six months in residence in a hospital, with responsible charge of patients under a physician. This examination — which entitles successful candidates to the minor degree of bachelor of medicine — comprises papers in medicine, surgery, midwifery, pathological anatomy, medical jurisprudence, toxicology, and other subjects, in addition to practical examinations in clinical medicine held in the wards of a hospital, in midwifery, and in the practical testing for poisons. The full degree of doctor of medicine may be obtained one year later, medicine forming in this case the great feature in the examination, a paper on logic and moral philosophy being, however, added. In all cases except the last there are over and above the pass examinations special examinations for honors in any of the subjects included in the prospectus. In these the standard is the highest attainable, and the student who obtains the first place in each subject is rewarded by a gold medal, and by a yet more substantial recognition of his merit in the shape of money prizes varying from £50 to £150. The minimum period over which the curriculum extends will thus be seen to be between five and six years, and few students obtain the full degree of doctor of medicine until between six and seven years after the commencement of their studies, and to do even this they must spend their time in almost unremitting labor.

Such, then, is the University of London. At the present time it grants degrees in arts, laws, medicine, surgery, and science, and it is about to institute a series of examinations in music. In all the faculties its examinations are confessedly some of the most searching and stringent in the United Kingdom; and in medicine its degree is not only deservedly at the head of all the other medical degrees and diplomas, but it is now held by a large proportion of the men whose names are best known for thorough and energetic work in the medical profession of this country.

I must not close without making some allusion to the changes which have taken place in the older universities since the foundation of the University of London, which changes may in great part be traced to the influence exerted by the latter. Little by little the old prejudice in favor of the church has been giving way. Dissenters and other non-churchmen were after long hesitation admitted to the degrees, and eventually even to certain of the rewards in the shape of fellowships, though a very considerable number of the latter still remain exclusively in the hands of the church. The curriculum has been made to embrace a much wider group of subjects, and far greater attention has been paid to science in all its branches than was formerly the case. Compulsory residence in one of the colleges during the period of study, which shut out a large number of men from the advantages of a university training, in consequence of the heavy expenses which had come to be associated with it, is now no longer required; and any young man may live in one of the university towns as an under-graduate in his own lodgings and in his own way, thus diminishing his expenses to little more than half. In addition to this, both Oxford and Cambridge are making endeavors to extend the opportunities for education throughout the country by sending experienced lecturers into the large towns, helping to found local colleges in different places, and instituting examinations for admission, to which a certain age is the only qualification required.

There is one reform which is in process of execution at the present moment, and in this the universities of Cambridge and of London are competing for precedence. I refer to the admission of women to university privileges. The first step in this direction was made several years ago, when Oxford and Cambridge almost simultaneously agreed to admit girls to the local examinations just referred to. Oxford has never gone further than this, but the movement was shortly followed up at Cambridge by the foundation of a college for women, which did not long remain the only one, and there now exist two such colleges, Girton and Newnham. In these the education is the same as that given to men, and though the university has not yet gone the length of admitting women to its degrees, yet many of the university examiners have agreed to give the ladies the same papers that they have drawn up for the men, to look carefully through the answers, and to let them know what places they would have obtained had they been admitted to the degree.

The University of London, not being a teaching body, has proceeded in a different way. Within the last six months it has agreed by large majorities in the convocation and in the senate — which are the upper and lower governing bodies of the university — to throw open all its degrees of every kind, medicine and law included, to ladies, under exactly the same conditions as to men;

and at the same time University College, London, has agreed to open the whole of its classes, except those in medicine, to women. The whole movement is too recent to show results at present, but it is one which is attracting a great deal of attention and giving rise to no small discussion between its supporters and opponents. This, however, is the stage at which the educational movement has now reached, and it is not going too far to attribute in great measure the marked change in public opinion which it indicates to the initiative taken by the University of London.

SHORT COMMUNICATIONS.

PRELIMINARY EDUCATION.

Mr. Editor, — In your issue of the 26th of September was contained a criticism of the Preliminary Course of the Johns Hopkins University which touched upon some vital points of medical education. I have looked for some vindication of the "new departure;" in default of any other I would submit the following answers to some of the strictures in the editorial referred to.

In the first paragraph of the article it is stated that "the object of this plan, as now arranged, is evidently the giving instruction in those subjects only which have a direct bearing upon the student's future studies and pursuits, it not having been thought necessary to give the future student of medicine the benefit of a liberal education, such as could be obtained in the academic course, and in accordance with the suggestions contained in the lectures alluded to."

To this may be answered: —

(1.) A "liberal" education, such as our colleges now furnish, is hardly ever carried on to such an extent as to make it, of itself, truly liberalizing; it is useful as a preliminary course to a real university course in academical studies, but it does not "liberalize" the graduate who terminates this line of studies at his graduation.

(2.) The best liberalizing influence is that which comes from a thorough knowledge of that which one pretends to know. The model which thorough mastery of a subject furnishes a student is of much better influence upon him than a superficial knowledge of many subjects.

At the end of the criticism occurs the following passage: "The university diploma is the lowest standard which such a school can afford to adopt, if it is to take the high rank that medical teachers throughout the country hope for. In addition to its own diploma those of certain other of our best universities might be accepted, or the student be subjected to a preliminary examination which would in all respects be the equivalent."

I would submit that it is evident on the face of the matter that the preliminary course of the Johns Hopkins University is something entirely different from any of our college courses; consequently, that it is not instituted in comparison with such, that it is not higher or lower, as the above quotation implies. It is, on the other hand, in opposition to the university (college?) courses as a preliminary exercise for medical men; now if thorough knowledge of the science of medicine is the object in view, it would be interesting to know of any college course that can compete with this preliminary course in fitting one for a medical school.

Finally, the review speaks of the Johns Hopkins preliminary course as having "a high-school rather than a university" flavor. In looking over the announcement of the course it seems to me that the few text-book recitations, together with the number of lectures and the large amount of laboratory work, suggests that as to "university flavor," although a preliminary course, it will compare favorably with the medical course in Harvard University, which has been so frequently alluded to as superior to anything on this continent.

Very respectfully yours, David Hunt, M. D.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XV.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, *October* 19, 1878.

NEW ORLEANS, LA. — During the week ended yesterday afternoon there were 976 cases of yellow fever and 235 deaths, of which 89 cases and 36 deaths occurred in the last twenty-four hours reported. Total cases 12,182, deaths 3635.

No cases of yellow fever at Port Eads or South West Pass during the past week.

BATON ROUGE, LA. — During the week ended yesterday at nine A. M. there were 301 cases of yellow fever and 16 deaths. Total cases 2170, deaths 129.

MORGAN CITY, LA. — There were 16 deaths from yellow fever during the last week. The number of cases was incorrectly given for the last report. Total cases to date reported to be about 432, total deaths 87.

MOBILE, ALA. — For the week ended yesterday noon there were 56 cases of yellow fever and 12 deaths. Total cases 93, deaths 32.

DECATUR, ALA. — Seventy-three cases of yellow fever and 12 deaths during the week ended yesterday. Total cases 155, deaths 27.

OCEAN SPRINGS, MISS. — During the week ended yesterday noon there were 25 cases of yellow fever and one death. Total cases 128, deaths 29.

PASS CHRISTIAN, MISS. — There were 32 new cases of yellow fever and four deaths for the week ended yesterday. Total cases 126, deaths 13.

BAY ST. LOUIS, MISS. — During the week ended yesterday evening there were 52 cases of yellow fever and 12 deaths. Total cases 338, deaths 68. The fever is on the decrease for want of material. The cases occurring now are more malignant.

FRIAR'S POINT, MISS. — Eight cases of yellow fever and two deaths during the week ended yesterday evening. Total cases 21, deaths 6.

CRYSTAL SPINGS. — The yellow fever is confined principally to the country around Dry Grove and Lebanon Church. No case has yet occurred within the limits of the village of Crystal Springs. During the past week there were 31 cases and eight deaths. Total cases 112, deaths 44.

PASCAGOULA, MISS. — Total cases of yellow fever at quarantine to October 12th, five; deaths, two.

SCRANTON, MISS. — Total cases of yellow fever to October 12th, five; deaths, three.

VICKSBURG, MISS. — For the past week there were 32 deaths from yellow fever in the city, and 64 in the county of Warren, outside of the city. Total deaths in city and county 1074.

HOLLY SPRINGS, MISS. — Total number of cases of yellow fever to yesterday evening 1117, deaths 285. About two hundred cases under treatment. The fever is spreading into the surrounding country. A slight frost occurred in the night of October 16th.

GRENADA, MISS. — For the week ended yesterday evening there were four new cases of yellow fever, and two deaths. The fever is spreading into the country. In 14 families containing 97 unacclimated persons there occurred 41 cases and two deaths during the past week. Total deaths in Grenada and adjacent country 327.

BOLTON, MISS. — Total cases of yellow fever to yesterday evening 117, deaths 31. The first case occurred August 12th.

HERNANDO, MISS. — During the week ended yesterday evening there were 50 cases of yellow fever and 23 deaths, — several of the cases from one to three miles in the country. Total cases 133, deaths 56. A light frost was observed this morning.

MEMPHIS, TENN. — For the week ended the evening of the 17th inst. there were 108 deaths from yellow fever. Total deaths 2892. Dr. Thornton, in charge of the Marine Hospital service at Memphis, has the fever.

CHATTANOOGA, TENN. — One hundred and one new cases of yellow fever, and 30 deaths, for the week ended at four o'clock, P. M., yesterday.

PARIS, TENN. — No cases of yellow fever or deaths for the week ended yesterday afternoon. A frost has occurred, and no further trouble is expected.

MILAN, TENN. — The first case of yellow fever — a refugee — occurred August 26th. The first case among inhabitants October 12th. Total cases to yesterday three, deaths three.

CAIRO, ILL. — No report of cases or deaths received. Assistant-Surgeon Roswell Waldo, of the Marine Hospital service, died of the fever at his post yesterday.

ST. LOUIS, MO. — Four deaths from yellow fever at quarantine during the past week.

LOUISVILLE, KY. — For the week ended yesterday there were fifteen new cases of yellow fever and five deaths. Of these numbers, 14 cases and five deaths were among the inhabitants in the locality before described. Total cases 127, deaths 54, of which 89 cases and 34 deaths were among refugees.

KEY WEST, FLA. — No new cases of yellow fever during the week. One death occurred the 12th inst. Total cases 37, deaths 17.

No reports received from the following places, where the yellow fever exists: Plaquemine, La.; Port Gibson, Miss.; Mississippi City, Miss.; Greenville, Miss.; Spring Hill, Miss.; WaterValley, Miss.; Biloxi, Miss.; Canton, Miss.; Brownsville, Tenn.; Grand Junction, Tenn.; Hickman, Ky.; and Gallipolis, Ohio.

HAVANA, CUBA. — Twenty-four deaths from yellow fever and one from small-pox for the week ended October 12th. The deaths from all causes for the months of April, May, and June last were 3030, — an increase of 989 deaths over the total for the same months of 1877; of this *increase* 535 deaths were from small-pox, 98 from yellow fever, and 130 from diarrhœa. The deaths from yellow fever the past summer are recapitulated as follows: April 28, May 53, June 184, July 504, August 374, and September (to the 28th) 168, making a total of 1311 deaths.

MATANZAS, CUBA. — Official returns of the Board of Health for the months of June, July, August, and September show that during that period there were 279 cases of yellow fever with 91 deaths. Cases are now rare, and the fever has almost ceased.

MOROCCO, AFRICA. — Advices from Tangier up to September 21st report the prevalence of cholera, small-pox, and malignant fevers throughout the empire, except in the country fronting the Spanish coast. Small-pox prevails in every port except Tangier and Tetuan. The deaths from cholera at Casablanca — a port of five thousand inhabitants — were on the increase, and numbered 103 on the 17th of September. Hundreds have died in the interior from cholera, fevers, and starvation, especially in the middle and southern provinces.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Oct. 12, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171			23.42	28.71
Philadelphia.	876,118	298	17.69	18.80	21.54
Brooklyn.	549,438	184	17.41	21.51	25.50
Chicago.	460,000			17.83	22.39
Boston.	375,476	150	20.77	20.10	24.34
Providence.	100,000	30	15.60	18.81	19.20
Lowell.	55,798	10	9.32	19.09	22.50
Worcester.	54,937	21	19.89	20.06	22.30
Cambridge.	53,547	21	20.39	18.69	20.83
Fall River.	53,207	36	35.19	21.35	24.96
Lynn.	35,528	19	27.82	20.42	19.67
Springfield.	33,981	8	12.25	16.02	19.77
Salem.	27,140	11	21.07	20.38	21.15

Mr. Henry C. Lea, the well-known publisher, makes an unusually attractive announcement of books in preparation for early publication: The National Dispensatory, by Dr. Stillé; new editions of Ashurst's and Bryant's Surgery; a book which everybody will read with great interest, namely, a new work on Gynæcology, by Dr. Emmet; also a work on Anatomy, by Drs. Allen and Shakespeare; and, finally, Ranvier's well-known little Pathology, translated by Dr. Shakespeare.

We are requested by a leading practitioner of this city to say that an individual calling himself Dr. Johnston, of England, visited him a few days since asking pecuniary aid, and upon inquiry he learns that he has already received assistance, and has been offered a free passage home in one of the Cunard steamers.

P. will find the letter of the vice-president of the Homœopathical Society of London in the *Lancet* for June 2, 1877.

Copies of the Transactions of the Medico-Legal Society may be obtained at Houghton, Osgood & Co.'s, 220 Devonshire St. Price 35 cents.

The Gynæcological Society of Boston. — The ninety-sixth meeting of the society will be held in the parlors of the Evans House, the first Thursday of November, at two o'clock, p. m. Members of the profession are cordially invited to attend after the transaction of society business. Henry M. Field, M. D., *Secretary.*

Suffolk District Medical Society. — A stated meeting will be held at 36 Temple Place, on Saturday evening, October 26th, at seven and a half o'clock. The following papers will be read: —

Dr. J. R. Chadwick, Cases of Retroversion complicated with Pregnancy, one being at full term.

Dr. G. W. Gay, a Case of Œsophagotomy.

Supper at nine o'clock.

American Public Health Association. — The eighth annual meeting will be held in Richmond, Va., on the 19th and 22d of November. The following will be the order of business: —

Reception of Report of the Commission investigating the History of the Epidemic of Yellow Fever, submitted by Dr. J. M. Woodworth, Surgeon-General of United States Marine Hospital Service.

Reception of the other Reports and Records of this epidemic — from all sources.

Reception of other Reports and Communications on the Epidemics and Sanitary Experience of the Present Year.

Announcement of the contributions of information and the presentation of communications from members of the association, state boards of health, municipal sanitary officers, and others.

Members of this association residing in Virginia, the governor of the State, and other citizens, have tendered ample facilities for the meeting, which will be held in the hall of the House of Delegates at Richmond.

Eminent public men from the South and from the chief cities of our country have promised attendance, and medical and sanitary authorities and other citizens who seek to promote the public health are cordially invited to participate in the deliberations, to be wholly devoted to sanitary matters of state and national importance.

The secretary of the association is Dr. Edward H. James, of New York.

Correction. — On page 462, last line but one, for 1878 read 1877.

Books and Pamphlets Received. — The Treatment of Diphtheria. By William C. Reiter, A. M., M. D. Philadelphia: J. B. Lippincott & Co. 1878.

Sound and the Telephone. By Clarence J. Blake, M. D., Boston. Read before the British Society of Telegraph Engineers, May 8, 1878.

Studies on the Laws of Life. By Dr. Nathan Allen. Lowell. 1878. Pp. 32.

Notes taken from a Lecture by Dr. Manuel Dagnino at the Medical University of Caracas, Capital of Venezuela, on the Treatment of Yellow Fever. Translated into English by Dr. Antonio De Tejada, of New York.

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LECTURES.

A CLINICAL LECTURE ON AN UNUSUAL CASE OF UTERINE FIBROID, WITH A LONG PEDICLE, AND GIVING RISE TO ABDOMINAL DROPSY.

BY PROFESSOR T. GAILLARD THOMAS.

Gentlemen, — This patient, whose name is Mrs. F., and who is thirty-eight years of age and a native of the United States, has been brought to us to-day by Drs. Cornell and Wood. The latter has written out the history of the case very carefully; but I think it will prove more interesting and profitable for us to get the principal points of it from the patient herself, in our usual manner. Before doing so, however, I will pause a moment to call your attention to the very great importance of carefully observing the *facies* of every patient that comes into your charge. Always look at the countenance the first thing, and not infrequently it will give you the diagnosis at once.

In the present instance it is not difficult to discover from the facies that the general health of the patient is greatly depreciated. But now to go on with our questions. How long have you been sick, Mrs. F.? "Three and a half years." What seemed to annoy you especially at first? "Pain and heat in the left side, low down." Anything else? "Pain in the back." Did you have any trouble with regard to your monthly periods at that time? "No, none at all." As time went on, did you notice anything else? "I found that there was a lump in the abdomen." How long is it since you first discovered that? "Three years."

Dr. Cornell tells me that this lump of which the patient speaks was a hard bunch, which could easily be detected by conjoined manipulation at the time when his attention was first directed to it. This tumor, which afterwards became as large as a man's head, gave rise to ascites, and this was so extensive that Dr. Cornell was twice obliged to resort to tapping. On each occasion he removed at least fourteen pounds of fluid, and, in addition, there was a good deal of it which leaked out afterwards and could not be estimated. There has been no loss of blood

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[1] Reported by P. Brynberg Porter, M. D.

to account for the debility which is such a prominent feature of the case.

When I came to make a physical examination myself I found that the patient's abdomen was as large as that of a woman at the full term of utero-gestation. The line of dullness on percussion, I ascertained, was altered when the patient changed her position, and, on making palpation, I got a distinct wave of fluid. These two symptoms show conclusively that the fluid in this case is not inclosed in a sac, but constitutes a general abdominal dropsy. Just below the umbilicus, however, I detected a hard tumor of large size, which was so movable that it could be readily thrown from one side of the abdomen to the other, and pushed either up above the umbilicus or down into the pelvis. It appeared to be somewhat nodulated in character, and I will now endeavor by means of a diagram on the blackboard to convey to you some idea of its size, shape, and position. I think you will get a good conception of its movability if I compare it to an apple floating in a bladder half filled with water. As you can readily imagine, the apple thus situated would be much more movable than if the bladder were entirely filled with liquid.

Now comes the question, What is the nature of this tumor? And here, I am sorry to say, my assistants and I differ in an opinion. They believe that we have a case of malignant disease of the ovary, while I have been led to conclude that the tumor is really a uterine fibroid. The case is, then, a very important one from a diagnostic point of view. As I told you last week, a diagnosis is nothing but the deduction of logical conclusions from certain premises, these premises being the symptoms in any given case. But it is quite possible that from the same premises very different conclusions may be drawn, as is frequently the case among logicians; and from the same symptoms here, as you have seen, my assistants have come to a very different conclusion from that which I have arrived at. You can readily perceive, also, that the prognosis is greatly affected by the diagnosis formed; a prognosis, as I remarked before, being merely the prophecy in regard to any given case based on the probabilities noted in connection with it.

Now let me tell you a few of the reasons which led me to suppose the tumor was a fibroid of the uterus. In the first place, solid tumors of the ovary are exceedingly rare. The late Dr. Peaslee, in his admirable work on Ovarian Tumors, collected all the cases that he possibly could, and they are very few indeed, while one of those which he mentions as a case of mine I do not think was a tumor of the ovary at all, but, in all probability, a uterine fibroid with a long pedicle.

Again, solid tumors of the ovary are almost invariably malignant; and if this one had been of that nature, the patient would certainly not be in as good a condition as she is at present, if she were alive at all, —

which would be highly improbable. When you consider that the average duration of ordinary ovarian cysts before a fatal termination is reached is only three years, you can readily imagine how much worse the prognosis must be in a case of malignant disease of the ovary.

On the other hand, you may ask, How often do uterine fibroids give rise to abdominal dropsy? and my reply is, *Almost never.* But in the present instance, I cannot doubt, there is an exception to the general rule. In a case such as I now show you on the blackboard, where the fibroid growth is everywhere firmly attached to the uterus and really forms a part of its substance, abdominal dropsy never results. In such a case I would not dare to operate, because the tumor would be so intimately associated with the uterus that the removal of one would necessitate that of the other, and death would almost certainly ensue. But if the fibroid were of the character which I show you here, being attached to the uterus only by a long and slender pedicle, it would be exceedingly likely to cause abdominal dropsy. As a compensation, however, it could probably be removed with comparatively little risk to the patient.

This, in my opinion, is the true character of the tumor found in the present instance. If such is the case it is removable; and as the patient has consented to enter my service at the Woman's Hospital, I hope to be able to cure her completely. Unless operative interference is resorted to, however, the patient's condition will become more and more rapidly depreciated, and a fatal termination of the case may not be far distant.

EXAMINATION OF THE NEGRO THOMAS, WHO ARRESTS HIS HEART'S ACTION, AND PRETENDS TO THROW HIS HEART INTO THE ABDOMEN.[1]

BY MIDDLETON MICHEL, M. D.,

Professor of Physiology and Histology in the Medical College of the State of South Carolina.

THE subject of this report is a negro, perhaps thirty years old, of great muscular development, which has been exercised in certain directions to so remarkable a degree that voluntary control over and power in particular muscles make him an interesting object of study.

He first exhibits an extraordinary play of the abdominal muscles, which are made to contract, not simultaneously, as may be done by any one, but in separate layers, and in the several divisions of the recti, which are successively and violently contorted into vermicular contractions: slowly, then more rapidly, first from below upwards, then, reversing their action, from above downwards, producing rigid intumescences at one point and passive depressions at others, all of which is repeated with increasing frequency and vehemence until the sum of these muscular acts culminates in a tetanic rigidity, which seemingly expresses the aggregate of the force of all the fibres of all the muscles in the abdominal walls. Resting from the fatigue obviously attendant upon this exertion, he now proceeds to exhibit his ability to displace the heart into some one region of the abdomen. This, which he considers to be his great feat, he apparently accomplishes as follows: He invariably bends the body forwards to a greater or less degree; takes a deep inspiration, not suspending the breath, but, on the contrary, maintaining the diaphragm as depressed as possible, by keeping up very imperfect movements of expiration; then he throws certain abdominal muscles into contraction, depressing the greater portion of the walls of the abdomen, while he bulges out the region or spot where he assumes the heart to have migrated. This effort, interrupting the normal play of quiet respiration, is not long sustained: during a brief period the ear in the præcordial region certainly discovers, at first, a disappearance of the heart's pulsations, though these are soon again detected most faintly under a marked recedence of this organ from its natural position; while over the abdominal projection a cardiac murmur, more distinctly audible, is soon replaced by a *bruit de souffle*, which he voluntarily intensifies by periodic accelerations, as though this sound were due to the play of muscular action, being not unlike the well-known muffled sound induced by muscular fibres while contracting.

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[1] Read before the Medical Society, July 1, 1878.

His next performance consists in arresting the heart's action and the pulse at the wrist, — a phenomenon well understood by physiologists ever since the case of the Hon. Colonel Townshend, and which your reporter has seen more completely accomplished, perhaps, by others than by this individual. Here, again, he takes a very deep inspiration, but on this occasion suspending his breath completely, — a most necessary condition for the successful accomplishment of his purpose, — when all cardiac pulsation ceases, and the pulse-wave is no longer felt at the wrist.

His particular achievements, then, consist in repetitions of these three acts, abdominal muscular contortions, displacement of the heart, and temporary suspension of its action, the true nature of which we must now investigate, though we at once anticipate the conclusions of this report by stating that his performances resolve themselves into a display of unusual muscularity and muscular tension only. That such is the proper explanation we shall now endeavor to show.

This man is well developed; an athlete in form, there is no malformation discoverable. While breathing naturally the normal movements of respiration are seen, while in forced respiration the play of a perfect diaphragm becomes evident in the ascendency of abdominal over costal respiration. There is no fissure of diaphragm; indeed, the violent play of abdominal muscles just described, which habit and practice have rendered truly extraordinary, with such a deformity present, would drive the viscera either from abdomen into thorax, or from the chest into the abdomen, and render any such performance painful, dangerous, and perhaps wholly impossible. The presence, therefore, of this perfect septum between thorax and abdomen makes it impossible that the heart could leave the thoracic cage. We reject the assumption of a migration of the heart from its normal position to various parts of the abdomen, whither he pretends to convey it, because we have ascertained the presence of a perfect diaphragm, and not upon theoretical preconceptions of the impossibility of a translation of this organ from the thorax to the abdomen through a fissure of the diaphragm. That he effects something in this attempt is positive; that he simulates very wonderfully a displacement of his heart is evident; but the explanation of the phenomenon he presents rests upon physiological and not pathological conditions, as we shall see.

Experimental research has shown that during forced inspiration the heart, under ordinary circumstances, is not only depressed, but changes its position; its point is directed towards the median line, and deviated still more conspicuously in this direction as the lung becomes more and more inflated and presses upon it, so that it may finally assume an almost vertical direction; it loses entirely its relation to the intercostal space between the fifth and sixth ribs, receding more and more from the walls of the chest, until its beat is no longer perceived in its normal situation. This descent of the organ may usually be carried to the extent of from three to five inches. It must be remembered that we are not speculating upon this subject. The effects of inspiration in retarding, and of expiration in accelerating, cardiac action belong to the daily teachings of the physiologist; but the change of the heart's whole position, this dislocation of the heart, so to speak, during inspiration, is not so familiar to every one, and was comparatively unnoticed until the researches of Professor Da Costa,[1] of Philadelphia, who made a series of observations on healthy persons, having first ascertained the "extent of percussion dullness of heart, and the normal position, and strength of the impulse of quiet breathing." A careful tabulated statement shows when the first sound, then the second, and finally both beats and the impulse wholly disappear in the præcordial region, while these become successively audible in the epigastrium below the ensiform cartilage. Direct experiment on the cadaver, in which Dr. Da Costa was aided by Dr. Agnew, showed that the inflated lung rose more and more until it reached the ribs, pressed upon the heart whose apex turned inwards, was lowered, and came distinctly forwards.[2] The descent of the diaphragm also influences the position of the heart through the connection of the pericardium with that muscle and with the aorta and pulmonary arteries, the result of which is to lengthen these eminently elastic vessels, and thus to lower the whole situation of the heart, though not to turn its apex inwards, which latter change is effected by the lung. The simple elevation of the walls of the chest cannot explain or account for the recognized change of position, which appears referable to the conjoined action of lung and diaphragm.

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[1] Am. Journ. Med. Sc., January and April, 1859, pages 119 and 370.

[2] Am. Journ. Med. Sc., April, page 373.

Now it is reasonable to suppose that in this individual the diaphragm in its extraordinary exercise has participated in development with the abdominal muscles, and is under such control that during an inspiratory effort of this exaggerated character he forces his heart even beyond the ascertained extent of depression in ordinary individuals, which would place it some six to seven inches below the ensiform cartilage, particularly as he is aided by the flexion of the body, with which he is careful always to accompany the act; this would remove the heart wholly beyond the reach of immediate auscultation at the normal point, and make it beat *apparently* within the abdomen, though still resting upon the floor of the preternaturally depressed diaphragm. As this muscular tension seems to be as painful as it is difficult, we find that it is of no long duration, and we have distinctly discovered that while he releases himself from the diaphragmatic tension, and the heart is again recognizable *in situ*, he can, at will, produce the souffle sound in the abdominal point where it was supposed to have been, and with propulsive contractions simulate its return to this spot. The explanation of this supposed dislodgment of the heart certainly rests upon the exaggerated play of lung and diaphragm, and upon nothing else.

Did any abnormality exist, such as fissure of the diaphragm, the case would be somewhat complicated, for it would be difficult to limit the extent of displacement to which an organ might be liable under such a vice of conformation, though thus much may be said: that were this displacement of the heart to occur even as a hernia of the diaphragm it should have to take place during the *relaxation* of this muscle while the fissure was open, displaying its greatest capacity, and not during a contraction which necessarily would bring the margins of the fissure in rigid proximity, and tend to close it. Now, it is worthy of note that when he prepares to make the effort of displacement, he, on the contrary, always takes a forced inspiration and flexes the body; in other words, enforces such conditions as would obstruct or prevent rather than favor his proposed design. It must not be argued that the tension of vessels and nerves would be so great, under a transfer of the heart to the abdomen, that circulation would be impossible, and life itself be compromitted, since in malformations of this kind these structures undergo a remarkable degree of adaptiveness.

Displacements of the heart contingent upon malformations are numerous and varied, forming more than one group in the classifications of teratologists, and are of particular interest and importance in medico-legal questions concerning the viability of the child. Ectopia cordis, with arrest of development of the walls of chest and abdomen, invariably accompanied with absence of pericardium, is incompatible with viability; so is the upward cervical dislodgment of the heart found in connection with the base of the tongue, and placed vertically between the ununited halves of the lower jaw, reminding us of the permanent condition among fishes, and the embryonic mammalian stage of development. Even congenital perforations of any extent are accompanied by such other arrests of development as result in nothing short of a monstrosity; and though we here announce an organo-genetic law, yet the expected exception to this, as to every other rule, is to be found precisely in cases of perforation of the diaphragm; for extensive breaches of continuity in this muscle have been observed when no other sign of imperfection existed, and no knowledge of the abnormality was suspected throughout adult life until revealed by necropsic examination. Where no external arrest of development obtains, and even in the absence of all visible signs of deformity, the downward dislodgment of the heart into the abdomen through a fissure of the diaphragm is neither unknown to teratologists nor incompatible with perfect adult life, two examples of which I will adduce as specially interesting in this connection: —

Ramel, just one hundred years ago, in 1778, published the case of a girl, ten years old, whose heart was clearly recognized by him in the epigastrium; and as she was subject to frequent palpitations, this malposition of the heart might have impressed one with the belief in an aneurism at that point. This case, mentioned by Geoffroy St. Hilaire, is to be found in the old *Journal de Médecine, Chir., et Pharm.*, vol. xlix., page 423. The other case is recorded by Deschamps — Observation sur un Déplacement remarquable du Cœur — in the *Journal général de Médecine*, vol. xxvi., page 275. An old soldier was discharged from the service in consequence of a renal disease from which he had long suffered. Upon his return to civil life he married, and had children, but finally succumbed to his old complaint. At the autopsy an unexpected revelation occurred, as nothing of the kind had ever been suspected: a fissure of the diaphragm existed, and the heart was found in the left lumbar region, whilst the large vessels from its base coursed upwards through the opening to the lungs specially, and to their other destinations.

Among such anomalies of development, morphological changes in the great organs of circulation compatible with life would appear to be without limit. Such facts in science must make one cautious in immediately declaring that no ejectment of the heart is possible under any circumstances; they would almost invite credence in such a case as was ascribed to the celebrated Baudelocque, many years ago, in the thirty-fourth volume of the Dictionnaire des Sciences médicales, page 221, in which both an abdominal and thoracic heart were supposed to have been discovered by the distinguished French obstetrician in the same individual.

The suspension of the heart's action, and of the head-wave in the blood current which forms the pulse, has been so perfectly verified in several instances that we might pretermit all consideration of this question so far as it relates to this man, but that he adds to the annals of science another authenticated instance of the kind.

The case of the Hon. Colonel Townshend comes to us through one of his physicians, Dr. George Cheyne, author of a Treatise on Nervous Diseases, who was called with Dr. Baynard to see this gentleman at the Bell Inn, upon his arrival at Bath from Bristol. At one of their visits, while Mr. Skrine, the apothecary, was present, the colonel stated that he could *die* or *expire* when he pleased, and yet by an effort he could come to life again, and asked an explanation of the phenomenon; but as he was weak and sick, these gentlemen with reluctance assented to his making the trial. While he prepared himself for so strange an exhibition Dr. Cheyne held the pulse, Dr. Baynard examined the heart, and Mr. Skrine placed a mirror to the mouth; the pulse sank until it could not be felt, all motion of the heart ceased, and not the least soil of breath on the bright mirror was detected. Then each in turn examined the arm, heart, and breath, but could not discern the least symptom of life. He remained in this condition for a *half hour*, when the functions of respiration and circulation were gradually reinstated.

Some years ago I was invited by Professor Frost, then dean of the medical college of Charleston, to meet the faculty by appointment to examine a Mr. Grew, in whom there was an arrest of development of the sternum. Besides many interesting facts concerning the play of the heart, which were readily determined through the simple integumental covering which alone separated us from that organ, we had an opportunity of witnessing a like experiment upon the suspension of this heart's action and subsidence of the pulse. When he took a deep inspiration and then held his breath, the pulse grew weaker and weaker, and finally stopped entirely, while the ear over the præcordial region could not detect the slightest impulse or sound. The heart had ceased all action, and there was temporarily no pulse throughout the system.

Now this negro performs the same act, though not so prolonged in duration as in the case of Mr. Grew, in whom the experiment lasted almost two minutes, and he does it in the same way.

This most singular power, which from time to time has been possessed by certain trained individuals, is more than a matter of simply curious interest to physiologists. In an analysis of the phenomena involved in its explanation, it appears to me to aid in unraveling those yet more wonderful occurrences known and spoken of as "states of trance," in which all evidences of life depart, and persons have even submitted to being buried for a time; while we are seemingly taught again that what may thus be brought about by an act of volition is but an imitation of that cataleptic state that ensues when the same centres of volition are in a pathological condition.

The obstruction to the circulation in this man's case is mechanical, depending upon the suspension of his breath. The illustrious Hunter could control his heart's action by interrupting his breathing until the former would almost stop its contractions. We are fully aware that the heart possesses an autocratic biotic force, and pulsates when removed from the body; but, like all other muscles, if injured by a blow or by attrition of its fibres or over-distention of the same, it for a time becomes paralyzed, and its rhythmic autocratic movements cease. Now, when the breath is held, the unaerated blood is obstructed first in the capillaries, then in the arterial system, and finally the systemic heart becomes distended enormously, and incapable of emptying itself. If this distention increases, rhythm first disappears, pulsations become feeble, and in a few seconds all contractions cease. The obstruction commences in the capillaries, and not in the lung; the accumulation of blood is in the arterial system; and the arrest of flow in the blood current is retrogressive. It is in this manner that a temporary interruption to the circulation and heart's action is effected by those who through practice have habituated themselves to endure a suspension of function not perhaps unattended with imminent risk to life if carried too far.

RECENT PROGRESS IN SURGERY.[1]

BY J. COLLINS WARREN, M. D.

Supra-Condyloid Amputation of the Thigh by the Method of Gritti. — Dr. W. H. A. Jacobson describes in Guy's Hospital Reports for 1878 two operations performed in this way. Gritti's method is for the knee-joint what Pirogoff's is for the ankle. The femur is sawn through the condyles, and the articular surface of the patella having been removed by the saw, the two divided bone surfaces are brought into apposition. There is some difficulty in bringing the bones together, and accordingly Dr. Stokes, of Dublin, invented the supra-condyloid method, which merely amounts to cutting the bone a little higher up, so that the patella falls down more easily over the end of it. If it does not lie closely to the bone, it may be held in place by a catgut suture passed through the periosteum of the posterior cut edge of the femur to the covering at the lower edge of the patella. The incision for the flap begins an inch above and behind the internal condyle, and is carried down vertically to a point opposite the tuberosity of the tibia, then across and up to a corresponding point over the external condyle. There is a short posterior flap. Among the special advantages claimed for this method is the preservation of the normal attachment of the extensor muscle. In one case, however, we find this was divided. The most important advantage is said to be the facility with which an artificial limb is fitted to the stump. This is not too long, as in Gritti's operation, and there is no difficulty in taking the bearing on the end of the stump, which in other amputations is said to become soon so tender that bearing must be taken higher up the thigh. We can see one decided disadvantage in this operation, namely, the sacrifice of the insertion of those muscles of the femur which are attached to the condyles, owing to the height at which the bone is divided.

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[1] Concluded from page 531.

New Method of performing Amputations. — Professor Verneuil has experimented largely of late years in attempts to overcome some of the difficulties which surround these operations and entail the presence of more assistants than frequently it is possible to obtain. The method he has adopted appears to be based upon the plan usually employed in the removal of large growths, namely, to dissect cautiously with the knife, tying all vessels of considerable size before or as soon as they are divided. The advantages of this plan are illustrated in a case of disarticulation at the hip-joint,[1] which was performed in the following manner: Esmarch's bandage having been applied, and the limb emptied of blood as thoroughly as possible, an incision was made beginning at Poupart's ligament, and, following the line of the vessels for a distance of six centimetres from this point, it was continued at right angles outward and downward, running through the gluteal fold behind, and coming up on the inside two fingers' breadth from the genito-crural fold to the starting-point of the circular cut. All cut vessels were then tied. The next step was the opening of the sheath of the vessels and exposing the femoral at the point where the profunda was given off. The vessel was tied above the division, and two ligatures were also placed below this point. The femoral vein was carefully divided in the same way. The muscles in front and on both sides were then divided one by one, all vessels being tied as fast as cut, the posterior muscles being divided last of all. The disarticulation is affected by an incision through the capsule in front. The patient was fifty-one years of age, and the disease was apparently a myxo-sarcoma of the thigh. The loss of blood appears to have been considerable, — six hundred grammes. The patient recovered. This method appears unsurgical, but might be useful in cases where the surgeon was "short-handed."

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[1] Gazette des Hôpitaux, No. 139, 1877. Centralblatt für Chirurgie, No. 22, 1878.

Gastrostomy in Stricture of the Œsophagus. — A very successful and satisfactory instance of this operation, performed by Dr. Trendelenburg, of Rostock, Germany, is reported by Dr. Thomson.[1] The patient was a boy nine years of age, who produced stricture by swallowing a draught of sulphuric acid. Neglect of treatment soon rendered the stricture impassable, and all attempts to dilate it having failed the operation was performed. It is thus described: —

"The skin was cut through for a length of four to five centimetres (about two inches) in a diagonal direction, running from right to left, parallel with the under side of the cartilaginous portion of the eighth left rib, and at a distance of a finger's breadth from it. The wall of the abdomen was divided in the same direction as far as the peritonæum, and the left rectus at the same time cut partly through. All the vessels were then carefully bound up, and after the bleeding had entirely stopped the peritonæum was divided in the same direction. The edge of the left lobe of the liver was then exposed to view, rising and falling with the respiration, and also a piece of intestine, which might have belonged either to the colon or to the stomach. As it could not be decided, by feeling about with the introduced finger, to which of these it was attached, I next pulled the diaphragm to the front, and could then easily find the junction of the same at the colon and at the stomach. The peculiar construction of the arteria and vena gastro-epiploica made the junction of the diaphragm at the stomach so characteristic that all doubt disappeared as soon as these vessels were exposed to view. The stomach had shrunk together and attached itself to the vertebral column. Its front side was now grasped at a point corresponding the best with the incision, drawn somewhat forward out of the opening, and fixed temporarily in the opening by two acupuncture needles stuck through it transversely. The two needles rested crosswise on the outer surface of the abdomen. In order that the peritonæum should with certainty be included in the sewing up, the edge of it, where cut, was grasped with pincettes, and was drawn forward and secured by laying the pincettes over on one side. For the stitching moderately strong silk was used, and the stitches were so arranged that the outer skin, the wall of the abdomen, and the peritonæum were pierced, and the wall of the stomach taken up as much as possible in its entire thickness. Altogether fourteen stitches were made. After the sewing, which surrounded a piece of the stomach wall in the form of a circle about one and a half centimetres (five eighths of an inch) in diameter, was completed, the stomach wall was cut through within this circle crosswise, and a drain-pipe inserted in the stomach."

One of the difficulties of these cases appears to be the tendency of the stomach to tear away from the abdominal wall, and in this respect differs from cases of enterotomy, where the intestine presses against the wall and shuts off automatically the abdominal cavity. This difficulty is increased when vomiting occurs. Soon after the operation in this case a feverish catarrh of the stomach and intestine appeared, and continued in various degrees for several months. The food, consisting of meat scrapings, soft-boiled eggs, milk, Nestler's children's food, etc., was introduced by means of a syringe into the stomach at intervals of three hours; the meat was first chewed and spit out again. When, however, this method of introducing the food was replaced by a cleaner and more natural one, the stomach catarrh disappeared. A longer tube was attached to the drain-pipe, and through this the boy now lets the masticated food slide down direct into the stomach, which he assists by blowing slightly with the mouth. The boy soon learned to be quite at ease with his artificial œsophagus. In feeding, the œsophagus is removed to the outside; otherwise the process is as much as possible like the natural one. The boy takes his food as before. The masticated and salivated matter remains partly in his mouth and is partly swallowed down into the œsophagus, after which he places the tube in his mouth, and sends the food, by a slight choking and spitting motion, into the tube, and lets it glide down into the stomach, assisting it by blowing slightly with the mouth. Then he shuts the pinch-cock, which he had previously opened, and recommences the process afresh. In this manner the boy is made independent of the highly unappetizing and comfortless procedure of the stomach syringe, and his feeding loses the disagreeable aspect of a physiological experiment.

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[1] The Lancet, August 31, 1878.

THE PHILADELPHIA PATHOLOGICAL SOCIETY.[1]

THE PATHOLOGY OF STRICTURE OF THE URETHRA.

THURSDAY evening, September 26, 1878, the president, Dr. H. Lenox Hodge in the chair. Dr. John H. Brinton opened the discussion by exhibiting specimens from six fatal cases of stricture of the urethra.

CASE I. A man, thirty-seven years of age, in whose case the parts had first been stretched, and internal urethrotomy then performed. A well-marked attack of urethral fever followed the introduction of the catheter several days after the operation, accompanied by vomiting and suppression of urine. The patient died on the fifth day. The autopsy showed the kidneys to be large and congested; an old, false passage running from a point one inch in front of, to a point two inches behind, the stricture; great congestion of the prostatic sinus, in the near neighborhood of which there was an almond-sized cavity filled with pus; bladder slightly congested; neighboring veins in a highly phlebitic condition; phlebitis the evident cause of death.

CASE II. Internal urethrotomy performed, followed by introduction of No. 10 Thompson sound. Death on the forty-third day; bladder hypertrophied and contracted, scarcely holding two fluid ounces of urine; stricture entirely healed; death caused by multiple abscesses of both kidneys.

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[1] Reported for the JOURNAL.

Case III. Stricture dilated gradually; no operation performed. Death on thirty-seventh day; bladder full of pus; false passage; death caused by severe pyelitis.

Case IV. Stricture dilated; no operation performed. Kidneys dilated and congested; bladder contracted and lined with tubercular deposits; large urinary abscess reaching nearly to the fundus of the bladder; all urine passed through a fistula; death on the fifth day, caused by inflammation of the lungs.

Case V. Stricture dilated by Holt's instrument. Kidneys full of multilocular cysts. Death on forty-seventh day, due to this cystic disease of kidneys.

Case VI. Meatus cut and stricture dilated at three o'clock in the afternoon; surgical fever entirely controlled by opium and quinine. The man turned over in bed, and died without a groan at six o'clock on the following morning. A careful autopsy disclosed no disease whatsoever of any of the internal organs.

In commenting upon the above cases, Dr. Brinton said that all the deaths had occurred in his hospital practice; that he had never lost a single case in private practice; that he had been able, by carefully tabulating all his cases, to reach the same conclusion drawn by Sir Henry Thompson, namely, that two thirds of all strictures are to be found in the bulbo-membranous portion of the urethra; that in a total of sixty-eight cases of stricture following gonorrhœa the average period elapsing between the time of gonorrhœal infection and the appearance of the stricture had been found to be from five to seven years. The doctor further stated that urethral fever appeared in three out of a total of seven cases in which divulsion and urethrotomy had been performed; in all of the cases in which internal urethrotomy had been employed, namely, four; in eight out of a total of twelve cases where divulsion after Holt's method had been used; in all of the cases of perineal section, namely, four; and in eight out of a total of twenty-two cases where gradual dilatation was employed.

Dr. Samuel W. Gross had paid much attention lately to the subject under discussion, and wished to call attention to the fact that in cases of stricture where other portions of the genito-urinary apparatus were involved any operation, no matter how slight it might be, in hospital practice was likely to be followed by death; that patients entering the hospitals with venereal diseases and stricture were, as a usual thing, entirely broken down in constitution before applying for medical aid; that in such cases he had known death to follow the passage of a catheter. He wished to call attention further to the fact that only the most gentle methods of treatment had been employed in Dr. Brinton's cases, and that what seemed to be a very ghastly showing was due simply to the causes which he had just pointed out.

In his case, as in Dr. Brinton's, the results of private practice had been altogether different, but of twenty-five hospital cases he had had three deaths following internal urethrotomy, and one death following divulsion; whereas in a total of seventy-six cases in private practice, in forty-seven of which he had performed internal urethrotomy, and in twenty-nine divulsion, he had not lost a single case. He said that he always gave a full dose of quinia before attempting any operation on the urethra, and after the operation injected a good quantity of morphia under the skin. He stated that of the four fatal cases in his hospital practice one death had been caused by pyæmia, and in the other three cases a post-mortem examination had shown the kidneys to be granular and contracted; that no albumen or tube casts had been found in the urine of any of these patients.

Dr. Gross's results differed somewhat from those reached by Dr. Brinton and Sir Henry Thompson; in only about forty-six per cent. of his cases had the stricture been located in the bulbo-membranous portion of the urethra. He desired to lay particular stress upon the following conclusions which had forced themselves upon him, namely: first, that when a stricture is found in the glandular portion of the urethra there will almost always be another further back; second, that protracted gonorrhœa was the most frequent cause of stricture; third, that divulsion and perineal section were the worst of all the operations for the relief of stricture; and, fourth, that in his experience most of the cases of urethral fever were found to follow the operation for internal urethrotomy.

In closing Dr. Gross wished to state as his positive conviction that gradual dilatation was only a palliative means of treatment, and that a stricture could never be permanently cured except by cutting it; that before performing internal urethrotomy, however, he always made it a rule to put his patient through a course of what might be called gradual dilatation.

Dr. Charles W. Hunter wished to know whether urethral fever always occurred after the passage of the catheter, as some authorities held.

Dr. Brinton replied that he placed no confidence upon such statements; that in his practice urethral fever had occurred irrespective of catheterism altogether, in some cases before and in others after the introduction of the catheter.

Dr. Hunter wished to know if stricture had ever reappeared in Dr. Gross's experience after internal urethrotomy.

Dr. Gross said that it had been impossible to follow up most of his cases, but that in those few which he had kept in view there had been no return of the stricture.

Dr. O'Hara desired to inquire as to the means of determining whether a fever were urethral or not.

Dr. Brinton, in answer, detailed the symptoms of urethral fever, — the chill, the profuse sweating, the rapid pulse, etc., — and said that if fever appeared five or six hours after operation it was generally of purely nervous origin; if twenty-four hours after the operation it was in all probability urethral fever; and if as late as seventy-two hours after operating it was, without doubt, pyæmic in nature.

Dr. Charles B. Nancrede related a case in his practice in which complete cure had followed internal urethrotomy. Dr. Brinton also mentioned several cases.

Dr. Hunter had never employed any method for the cure of stricture but that by gradual dilatation at the University Hospital, and had never as yet known of a single case permanently cured. He wished to inquire into the rationale of internal urethrotomy. Why was it that cutting the stricture did any good? He thought that the tendency of all cicatrices was to contract steadily. He certainly knew this to be so in the case of burns of the skin.

Dr. Gross was aware that cicatrices contracted steadily as a general rule, but said that this was not the case in the operation for division of a stricture and for this reason: he never allowed the sides of the wound to heal together, but forced them to heal by granulation by the daily introduction of bougies of large calibre thoroughly distending the parts. That in this way instead of a constantly contracting cicatrix he was able to add a new fold of mucous membrane to the calibre of the stricture, — a fold equal in length to the combined width of the sides of the cut.

Dr. Edward O. Shakespeare had quite recently, in company with Drs. D. Hayes Agnew and I. Henry C. Simes, examined under the microscope sections from several cicatrices following the operation of internal urethrotomy, and in every instance had found a large preponderance of elastic fibres in the stricture of the cicatrix; in one instance as much as seventy-five per cent. of its bulk being composed of elastic fibres. It was thus plain that cicatrices of the mucous membrane of the urethra were different from those of the skin, since there was always a large preponderance of fibrous tissue in the latter.

Dr. I. H. C. Simes confirmed Dr. Shakespeare in the above statement of the results of his investigations.

Dr. Charles B. Nancrede called the attention of the society to the extreme value of this discovery, and said that Sir Henry Thompson in his most recent publications had denied the existence of elastic tissue in urethral cicatrices.

The president, Dr. H. Lenox Hodge, wished to dwell upon one fact which he thought had been overlooked in the discussion, namely, that proper significance had not been laid upon the almost universal and necessary implication of other organs in stricture of the urethra as an element always of possible fatality in the diagnosis, not only in hospital cases, but also in private practice. Dr. Hodge could remember one case in his own practice in which entire cure had followed gradual dilatation of a stricture.

Dr. Carl Seiler thought that there was always less contraction in a cicatrix of the mucous membranes of the body than in one of the epidermis.

Dr. Hunter in opposition to this statement instanced a case of a child who had swallowed sulphuric acid, the calibre of whose œsophagus had been entirely obliterated, causing death by starvation.

Dr. Shakespeare was sorry that he could not agree with Dr. Seiler's statement.

GRAY'S ANATOMY.[1]

This well-known text-book has always been a favorite in American schools. The number of the illustrations, their clearness, the plan of printing the names of the parts directly upon their representations, are features that appear to atone for many deficiencies and some inaccuracies in the text. The chapters on surgical anatomy, out of place as they are, prove, no doubt, attractive to students. The volume before us differs, we believe, considerably from the preceding American edition. About one hundred pages at the beginning are devoted to histology and embryology, and the publishers have appended Holden's excellent Medical and Surgical Landmarks. In spite of these advantages we regret that we do not think the book worthy of the position it will occupy. Our ideas of the plan of such a work may, of course, be wrong, but our criticisms on its execution admit of demonstration.

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[1] *Anatomy, Descriptive and Surgical.* By Henry Gray, F. R. S. With an Introduction on General Anatomy and Development by T. Holmes, M. A. A new American from the eighth English edition. To which is added Landmarks, Medical and Surgical, by Luther Holden, F. R. C. S. Philadelphia: Henry C. Lea. 1878.

If besides gross anatomy the work includes histology, we have a right to expect something more than a mere sketch. It is proper that the newest discoveries should be utilized, and that the recent views of distinguished observers should at least be referred to in fine type. The science of embryology being yet in its infancy calls for less extensive treatment; we would only demand a clear and systematic account of the chief phenomena, with references to special investigations.

Let us now see how the book before us fulfills these requirements. It opens with a treatise on histology by Mr. T. Holmes, which cannot be called better than very poor. The author appears quite unequal to his task, and as we never heard of him as a histologist we cannot conceive why he undertook it. The account of connective tissue is decidedly behind the times, and, in spite of some efforts to renovate it, gives on the whole a wrong impression. The relations of the cells and the origin of lymphatics — points of vital importance — are made by no means clear, and the cells of tendon do not receive even a word. In the section of histology we find Lockhart Clarke's observations on the structure of the cerebral convolutions, but nothing concerning the minute anatomy of the cerebellum. The histology of various organs is given after their coarse anatomy in a subsequent part of the book, but the microscopic appearances of the ovary are barely mentioned, and those of the testis utterly ignored. The section on embryology is rather more satisfactory, though not without serious short-comings. We are annoyed at seeing the embryo represented in the diagrams illustrating the early stages at the lower part of the circle, when it is the almost universal custom to place it on top. The chronological table of development, taken from Beaunis and Bouchard, is an addition. We wonder what is the authority for the statement, found elsewhere, that "the umbilical cord appears about the end of the fifth month after pregnancy."

We now come to what may be considered the essential part of the work, that which treats of coarse anatomy. The drawings of the bones, as a rule, are good, and the text rather meagre. The account of the vertebræ and the spinal column might with advantage be fuller. The accessory and mammillary processes deserve more attention than they receive. Of all parts of the body the spine seems to us a standing protest against the artificial way in which anatomy is treated. Here is a firm elastic column, part bone, part gristle, supplied with numerous intrinsic muscles, which practically is as much a unit as any organ in the body, yet we must look under different headings for the description of the separate tissues which are so intimately blended, and what is said of the spine as a whole is, for the most part, scattered. Let this be in parenthesis; for it is not fair to blame an author for not being in advance of his constituents, if we may use the term. Such a man must appear, however, before English anatomy can be made what it should be. In the last edition of Quain we find the sternum and ribs treated of immediately after the spine, which is certainly better than Gray's method of leaving them till after the head. There is no mention of the double temporal ridge, described by Hyrtl, we believe, some seven or eight years ago. The indications of the insertions of muscles on the drawings of the bones are useful, and we must say a word in praise of the attention given to ossification. In the section of articulations we find a good deal that we like, and fail to find some things we should expect. The central part of the intervertebral disks is said to be "occupied by a soft, pulpy, highly elastic substance, of a yellowish color, which rises up considerably above the surrounding level, when the disk is divided horizontally. This substance presents no concentric arrangement, and consists of white fibrous tissue, with cells of variable shape and size interspersed." We were not aware that white fibrous tissue is highly elastic. Luschka's synovial cavities are not alluded to. The physiology of the joints receives a fair amount of attention, and sometimes is very well treated; as instances we may mention the wrist and the hip joints. The importance of the ilio-femoral ligament in maintaining the erect position is duly insisted upon. We are glad to find the action of the round ligament shown by trephining the acetabulum, though we think its importance is somewhat overestimated. The movements of the knee are treated rather superficially. The effect of the greater length of the inner condyle of the femur is not explained. We differ entirely from the author when he states that there is no motion save flexion and extension in the ankle-joint, and we do not believe that when the narrowest, or posterior, part of the articular surface of the astragalus is in the widest or anterior part of the socket, as in pointing the toes, it is possible for the former bone to be squeezed by the malleoli. We need not say a great deal of the muscles. The directions for dissection are, we think, very useful. The most common anomalies are mentioned. We wish a few more were. It annoys us to see Hutchinson's theory of the action of the intercostals still retained. It has been repeatedly disproved, but it seems that we can never hope to get free from it. Nothing is said of the action of the tensor palati on the Eustachian tube. There is no mention of the capsule of Tenon.

The chapters on the central nervous system are by no means what they should be. The minute anatomy of the cord is inconveniently separated from the gross appearances, being put in the section on histology. We question the statement that the central canal terminates in a cul-de-sac half an inch below the calamus scriptorius. It would not do nowadays to ignore the cerebral convolutions, but there is little advantage in the ill-arranged and inaccurate account before us. Here is an example of the description: "The supra-orbital convolution on the under surface of the anterior lobe is well marked." This is all. It will take a remarkable student to recognize it from this description, especially as it is not pointed out in any plate. We are told that "the ascending parietal [posterior central] usually joins the ascending frontal [anterior central] either above or below." The fact is that they are almost invariably united both above and below. The crowning blunder is found in Figure 358, in which a fissure running parallel to the interparietal is mistaken for the parieto-occipital fissure which separates those lobes. The mistaken fissure, however, does not reach the longitudinal fissure, so the author is reduced to a theory, stated in a foot-note, that the upper end has been bridged over. All this is the more lamentable that in the figure an uncommonly developed parieto-occipital fissure is quite evident in its proper place. The finer anatomy of the interior of the cerebrum is very defective. The lobes of the cerebellum, on the other hand, are remarkably clearly described. We are sorry to find nine pairs of cranial nerves instead of twelve. The position of the stomach is incorrectly given, and the way in which the structure of the mucous membrane is neglected is really too bad. After mentioning the situation of the mucous glands, and stating that they are lined throughout with columnar epithelium, the author continues as follows: "In other parts of the organ the deep part of each tube is filled with nuclei and a mass of granules; above these are a mass of nucleated cells, the upper fourth of the tube being lined with columnar epithelium. These are called the *peptic glands*, and are the supposed agents in the secretion of the gastric juice." We should have expected a cut of these interesting glands, but it is only natural that the author of such a description should think illustration superfluous. Dr. Watney's researches on the structure of the intestinal villi are quoted, but there is no mention of either Meissner's or Auerbach's plexus of nerves. There is a very pretty cut showing the minute ramifications of the bile ducts between the cells of the liver, but the text is rather obscure as to which of the various opinions of the origin of the ducts is to be accepted. This is excusable, but we should expect a definite statement that they begin within the lobules. After so much fault-finding we must not omit to praise the chapter on the kidney, — rather a left-handed compliment, however, as it is written by Mr. Spitta.

We have nothing to say against the chapters on surgical anatomy and the sections on ligation of arteries, except that we fail to see any reason for their appearance in this work. Anatomy is one thing and surgery is another, and topographical or applied anatomy, which we wish we saw more of, is not necessarily surgical anatomy. We think it very right that the author of a work on anatomy should point out how an anomalous muscle or blood-vessel may interfere with an operation, but it is entirely out of place for him to detail the successive steps of any operation. If the book is meant for a treatise on surgery as well as on anatomy, why do we have no directions for resections and amputations? On the other hand, we are glad to find Holden's Landmarks appended. It would be easy to mention other points worthy of praise and of criticism, but enough, perhaps more than enough, has been written to show our opinion of the work. There are so many good points in the book that it is doubly to be regretted that its faults and deficiencies keep it below the mark that a text-book should reach. T. D.

A STRIKING CONTRAST.

At the risk of inflicting upon our readers an overdose of views upon medical education, we take the liberty, indeed we feel compelled, to notice a recent contribution to the literature of this subject by a prominent teacher in one of the New York schools, delivered before the American Academy of Medicine, and an almost simultaneous address delivered by a distinguished London scientist to the medical department of the University College. Dr. Frank H. Hamilton's opinions on this subject, coming as they do from a representative of one of a group of schools which have thus far done nothing in the cause of reform, would naturally be read with much interest. One might hope to find at last, now that New York has spoken, some indication in our great centre of clinical instruction of a movement to abandon their old and evil ways and follow the example which has already been set them by more progressive bodies. On the contrary, although we find the "American system" unstintingly condemned, we look in vain for any indication that our learned colleague proposes to bestir himself in the matter. The evil is apparent, but we are hardly to blame for it, he thinks; it is an inheritance received from the mother country; our system of government does not admit our hoping or indeed desiring support from that quarter; private endowment is the only way of enabling our schools to give as high a grade of education as is demanded in other countries. He has seen men in the course of his experience "who thought they were going to revolutionize and reform this whole matter," but after ineffectual struggles they are to-day "as quiet as the dead." *He* is evidently too old a bird to be enticed into any such quixotic performances!

What has he to say of those colleges which have succeeded? Harvard has, after considerable hesitation, adopted some of the needed reforms, but its steps are "slow and unequal." Again: "In according to the University of Pennsylvania, also, praise for its recent action, we must not imagine that she has been actuated by a higher sense of duty or a better code of morals than has hitherto actuated her own board, or than continues to control the conduct of her sister colleges." From beginning to end this address is apologetic in its tone for the old system, while refraining to accord merit to those who have abandoned the same, and gives no hope of any change in the policy of those councils where its author wields great influence. Turning from this unsavory picture, let us see what an Englishman has to say of *his* country in regard to this matter. Among the introductory addresses delivered last month in London was that of Professor Lankester, who gives a graphic sketch of the present condition of medical education in Great Britain. In London particularly the system seems to be inferior to that of Dublin or Edinburgh; no true university exists with all the facilities for giving instruction in the various branches of medical science. There is a large number of hospitals containing the finest clinical material perhaps in the world, but their advantages are frittered away in the interest of numerous small schools, where the teachers consist chiefly of men who occupy their posts at indifferent salaries, with the hope of future promotion to hospital service. At the great universities of England matters are still worse. Both at Oxford and Cambridge medical professorships have been endowed from time to time, but the control of these institutions was so kept by the clerical party in their own interests that large sums of money have been diverted from the purposes for which they were originally intended, and the teaching of medicine at Oxford has finally ceased altogether, while it is only barely kept alive at Cambridge by the energy of one or two men. In London, as well as at the universities, large funds are in existence on which medicine has a claim, but from which it enjoys no advantages. In contrast with this is the great university of Heidelberg, with its rich endowments; its hospital, laboratories, and lecture-room; its faculty, including such names as Czerny, Kühne, Arnold, and Gegenbauer, whose anatomical institute has no rival in Europe; and all this in a city of only twenty-three thousand inhabitants. Professor Lankester bluntly says: "It is a disgrace to English civilization that a true university, an endowed university, a university in which new knowledge is continually being produced, and in which men are trained for this work of production as the work of their lives, does not exist in London and in each of our large cities."

Is he content to fold his hands and leave matters as they are? By no means. He uses all the influence of his position and name to urge upon the London schools to combine and form a university similar to those of Germany, — the clinical teaching of the hospitals being left as at present, independent of any university organization. The details of this scheme having been given, he eloquently beseeches "every man who enters upon a medical career to remember that he is joining the cause of a profession deprived of its heritage, and to make it his business to reinstate medicine in her seat, and to secure the restitution of her possessions."

Until this is done England must be content, as she herself confesses, to see all English-speaking students of other countries overcoming the disadvantages of a foreign language to study at the Continental schools in preference to her own. And we may add that New York, with clinical opportunities second to no city in the world, with teachers of a world-wide reputation, must be content to see her schools looked upon with contempt until she has placed them upon a footing which modern civilization demands.

SURGEON-GENERAL OF THE NAVY.

Unusual interest has been felt by the medical corps of the navy in the appointment of a "chief of the Bureau of Medicine and Surgery" in the Navy Department at Washington; the late incumbent, Surgeon William Grier, having recently retired by reason of age.

The Bureau of Medicine and Surgery, next that of Docks and Yards, is the most important of the departmental bureaus, and an appointment as its chief carries with the office the relative rank and pay of a commodore, and the title of "surgeon-general of the navy." With but a single exception it has always been given to the senior surgeon on the active list, and the importance attached to the present selection of this official has grown out of the fact that the secretary of the navy, on account of the comparatively brief time remaining before the officer whose name headed the list would be retired by reason of age, has seemed disposed to disregard precedent, and appoint to the vacant position a junior member of the medical corps. Great satisfaction is therefore felt that the head of the department has adhered to a custom, the non-observance of which would have had so demoralizing an influence.

Medical Director J. Winthrop Taylor, upon whom the surgeon-generalship has been conferred, was born in New York, in 1817. Graduating from Princeton College, and from the medical department of the University of Pennsylvania, he was appointed to the United States navy from the State of New Jersey in 1838. He has spent sixteen years and seven months at sea, an amount of service which has been equaled by but two other medical officers of the active list. He was in active duty throughout the Mexican war and the rebellion. He accompanied the expedition sent to bring the filibuster General Walker away from Nicaragua, and commanded in person the detail which conducted the prisoner by a long and perilous journey to the coast. He was surgeon of the Pensacola, when she ran the blockade of rebel forts erected along the Potomac River for her destruction, and was on duty in the same ship when, under Farragut, she passed the Mississippi forts, and assisted in the capture of New Orleans.

Surgeon-General Taylor has resided for many years in Boston, having been repeatedly attached to the Navy Yard, the Rendezvous, and the receiving ship at Charlestown, and to the Naval Hospital at Chelsea. This crowning honor of an active and unblemished service of forty years will give pleasure to a large circle of friends, by whom he is well known for his urbanity and his high standing as an officer and a gentleman.

MEDICAL NOTES.

NEW YORK.

— The numerous medical societies are now once more in active operation, and at the last meeting of the Academy of Medicine (October 17th) an interesting paper entitled The Problem of Yellow Fever was read before a large audience by Dr. Octavius White, a gentleman of Southern birth and education, whose name is widely associated with this disease. During the epidemic of 1876 in Savannah he offered his professional services to the afflicted city, and remained actively engaged in combating the pestilence until its final disappearance.

— A movement is now on foot which aims at a union between the Academy of Medicine and the Medical Journal Association, and at the next meeting of the latter a formal proposition to this effect will no doubt be made. It is claimed by those advocating the measure that all the advantages of both societies can thus be secured to members of the profession by the payment of an annual sum of ten dollars; while under the present arrangement gentlemen who belong to both are required to pay twenty dollars a year in dues. For some time past the Journal Association has had its rooms in the Academy's building.

— The committee of citizens having in charge the collection of clothing, etc., for yellow fever sufferers have reported a great success in their undertaking, and have issued a card of thanks to the people of New York for their generous response to their appeal. "Our sub-committees," says the report, "were received on their collection tour with a full-handed cordiality that amounted to a popular demonstration. They began their canvass of the city on Wednesday morning, October 9th, accompanied by a number of wagons liberally contributed by many merchants and companies, and preceded by the American District Telegraph Company's messengers, voluntarily detailed by that efficient organization, and concluded their labors on Friday evening, October 11th. Large quantities of valuable new goods were collected, cloth for suitings, ready-made clothes, shoes, blankets and other bedding, ladies' suits, etc. Messrs. A. T. Stewart & Co. alone contributed over eleven hundred articles of ladies' wear, including a number of entire suits, cloaks, jackets, and waterproofs; and the general average of all the collections was surprisingly good."

The grand total of the collections is estimated to exceed one hundred and fifty thousand dollars in value. Mr. George N. Sanders was the chairman of the general committee, and P. Brynberg Porter, M. D., chairman of the executive committee having the matter in charge.

CHICAGO.

— That distinguished veteran of the profession, Dr. Nathan S. Davis, was, on October 15th, nominated as the democratic candidate for Congress for the district comprising, with other territory, the north division of the city of Chicago. Judge Tree had been nominated and declined, when Dr. Davis was chosen by the central committee. His nomination is surprising, as the district is largely made up of beer-drinking Germans, who abominate unspeakably anything that smacks of the temperance movement, and Dr. Davis has for years been distinguished in Chicago for his bitter warfare upon King Alcohol. He is ultra to the degree of banishing alcohol as a medicine. He has declined the nomination.

— Dr. Aiken, whose application for an injunction to restrain the State Board of Health from revoking his license was last week decided adversely, has now (October 19th), through the State's attorney, filed a petition for an information in the nature of a *quo warranto*, asking that the members of the State Board of Health show by what authority they hold office and do various acts and things they claim the right to do.

— There are three hundred and forty students attending the present session of Rush College.

— The frequency of the occurrence of trichinæ in American bacon has given rise to petitions to the German government for the obligatory inspection of all ham and bacon sold in the various provinces of that country. It has been shown that about one half of one per cent. of American bacon sold in some parts of Germany contains trichinæ, mostly dead, but in certain cases living, in spite of abundant salting and a curing process of three months. In such exceptional cases the living parasites are found in the deeper layers, remote from the surface. The same is true of the portions next to the bone in ham smoked by the so-called rapid process. The "spare-ribs," which are ordinarily very extensively affected when trichinosis is present, are usually sold fresh in this country; but they are, as a rule, thoroughly cooked here, and the outbreaks of disease so common in other countries, due to eating underdone and trichinous swine-flesh, are exceedingly rare.

— By recent act of the legislature the reports of the State Board of Health are to be sold by the secretary of state. A few copies of this year's report are still to be had.

CHILDREN'S HOSPITAL.

SERVICE OF DR. BRADFORD.

[REPORTED BY DR. F. H. DAVENPORT.]

Caries of Ankle ; Removal of Astragalus and Scaphoid. — J. M., aged four, has had caries of the right ankle for several months. The sinuses were enlarged, and portions of dead bone removed by Dr. Langmaid. No improvement followed, and it became evident that more carious bone remained, the position of the sinuses and of the swelling indicating that the astragalus was the bone involved.

June 27th. An incision was made on the outer side of the foot, over the head of the astragalus. Both the astragalus and the scaphoid were found diseased, and both of these bones were removed. To facilitate this a straight incision was made on the dorsum of the foot. The other bones of the tarsus were healthy, but the lower edge of the tibia was found slightly roughened, and was scraped.

The operation was done and the limb dressed antiseptically; the dressing was, however, removed in twenty-four hours, as it was found to have leaked badly, and the wound was dressed with oakum and washed with a solution of thymol (one to one thousand).

At the present time, three months after the operation, there is good mobility at the ankle-joint; the incisions have healed, with the exception of the site of the drainage tube, which has been recently removed. The child is able and anxious to stand upon his foot, which is in good shape, and promises to be perfectly useful.

Umbilical Fistula. — F. L., aged four, has been an inmate of the hospital for some time for a congenital umbilical fistula. A small sinus in the centre of the umbilicus secretes a minute quantity of a clear, glairy fluid. This is sufficient to cause a troublesome eczema, which, unless the child is carefully nursed, involves the whole of the belly. No umbilical hernia is present, and there are no superabundant granulations. A sufficient amount of the fluid secreted could not be collected for chemical examination. There was, however, no urinous odor in the compress kept over the sinus. A probe would enter as far as the peritoneal cavity, but the further course could not be determined either by a probe or a capillary bougie.

The tract of the sinus was cauterized by a red-hot knitting-needle, as is recommended by Mr. Holmes, and then packed with absorbent cotton, in the hope that the granulations would be kept dry, and union result. No improvement, however, followed. As the boy was debarred by his slight infirmity from admission to the Orphan Asylum, more active measures seemed to be demanded.

A director was passed into the sinus, the handle depressed, and the soft parts incised; the whole tract of the sinus was thus laid open, and the skin above incised. The further course of the fistula could not be followed either by means of a probe or a capillary bougie. The edges of the sinus were refreshed, and the skin sewed together. No force was intentionally used in passing the director, but a small portion of the omentum protruded as the child coughed. As it seems improbable that the fistula opened directly into the abdominal cavity, it is more likely that the peritonæum was punctured in passing the director. The operation was done and the wound dressed antiseptically; no inflammatory symptoms followed. The omental hernia increased slightly, granulated, and formed adhesions to the skin, causing a small, pedunculated, granulating tumor. This was tied, and caused no farther trouble. No hernia or tendency to hernia remained. The incision united by first intention. A small opening remained, through which a drop of clear fluid could be forced on pinching up the skin. This, a month after the operation, showed no tendency to heal. [NOTE. A similar case operated upon successfully in a somewhat similar way by Mr. Paget may be found in the Medico-Chirurgical Transactions, Tome xliv., 1861.]

Congenital Inguinal Hernia; Operation according to Heaton's Method. — O. F., a child twenty months old, had a congenital inguinal hernia admitting the little finger through the ring. The testicle had descended, and showed no tendency to be drawn up into the abdominal cavity. The intestine protruded whenever the child cried, and descended into the scrotum.

The hernial sac was injected three times, according to Heaton's method, with a preparation of quercus alba, mentioned in his book.

Difficulty was encountered in determining the exact place for "tendinous irritation." The first injection failed, and as the irritant was not deposited on the pillars a second injection likewise failed. Two weeks after a third injection the hernia was found to be held up even when the child cried forcibly. An examination by the finger showed that the opening had diminished to a marked degree, and could not readily be found. No inflammatory symptoms followed either of the injections, except a slight epididymitis after the first, due probably to inexperience in depositing the irritant. After each injection the hernia was kept from protruding by a form of bandage sold by dealers as the rainbow truss.

LETTER FROM PHILADELPHIA.

MR. EDITOR, — The tercentenary of the birth of Harvey has evoked from those who delight to do him honor a considerable addition to the literature of the history of his life and times, and the question of his immortal discovery. Among the many able memorial addresses and essays upon this subject the latest, though not less in rank than those which have gone before, is one from the facile pen of Professor Da Costa. In his introductory to the winter course of lectures at the Jefferson Medical College, on the evening of October 2, 1878, he announced as his theme "Harvey and his Discovery," and delivered a most interesting lecture, in which he happily presented some important evidence in support of Harvey's claim as the discoverer of the systemic circulation, which has never before been published in this connection. The amphitheatre of the college hospital was densely crowded with a sympathetic and most appreciative audience, which listened for an hour and a half, enchained by the graceful style and elevated expression, and the distinct though fervid delivery of the speaker. A pleasant surprise awaited the professor, for at the end of the discourse one of the students stepped into the arena with a valuable piece of plate, which he presented to the orator in the name of the class in token of their esteem and affection. The customary students' edition of the lecture has been printed by the class, but as Mr. J. B. Lippincott, who considers it a valuable contribution to the subject, intends to publish it in a permanent form, I will not by a more extended notice anticipate its review in regular course in these pages.

Over at the University the new laboratory building was opened on the 4th inst., by Dr. S. Weir Mitchell, who gave an interesting review of the scientific progress of medicine during the last half century, noting particularly the tendency toward the application of apparatus of precision to the study of disease.

The Board of Health of Philadelphia passed resolutions on the 8th inst. cordially indorsing the recent action of Surgeon-General Woodworth in appointing a commission to proceed to the South, and study the causes of the yellow fever, and also appealing to our public-spirited citizens for contributions to the expenses of the inquiry. A number of our prominent physicians have signed a card requesting the citizens to furnish the material aid required, believing that "practical results may be achieved which will materially lessen the possibilities of the recurrence of such visitations with their attendant distress and suffering to the people of the South, and their danger to the health of Northern cities.

At the last meeting of the county medical society an interesting discussion on the subject of the intravenous injection or transfusion of milk, was provoked by a paper presented by Dr. Wm. Pepper, entitled Functional and Organic Anæmias, and the Use of Milk Transfusion in their Treatment, which contained the record of two cases in which it was resorted to with benefit. The opinion was generally concurred in that milk possesses the advantages of blood without the disadvantage of forming coagula. Dr. Chas. T. Hunter said that he had performed the operation in hospital and private practice upon twelve cases, and described the method he had pursued. The apparatus consists of (1) a funnel capable of holding about six ounces; this is surrounded by a reservoir containing, at the time of the operation, water at a temperature of 99° to 100°; (2) of a rubber tube about one sixth of an inch in diameter and twenty-four inches long; and (3) of a nickel-plated steel canula about one eighth to one twelfth inch in diameter, and terminating in a sharp or quill point. The last canula he had made has a stop-cock to control the flow. As the injection is made only by the force of gravity, the rapidity and force of the current is altered at will by elevating or lowering the reservoir. The fresh, warm milk is poured into the funnel, across the top of which is a strainer of finest metallic gauze to intercept any hairs or accidental particles of dirt. The warm water in the reservoir keeps the milk at the proper temperature. The operator having applied a fillet above the elbow, as in phlebotomy, and having made a superficial incision above the vein and isolated the vessel, the sharp point of the canula is thrust into the vein, and the milk allowed to flow, the air having been first displaced by the passage of a small amount of the milk previous to the insertion of the canula. The milk is allowed to flow gradually into the vein until the desired amount is injected; the wound is then brought together with an adhesive strap, and a compress and bandage applied. The median cephalic vein is preferred, but when this is too small the median basilic is taken. The small incision heals by first intention, and in at least one of the cases the blood had resumed its course through the vein on the fourth day. Dr. Hunter objected to the use of carbolic acid in washing out the apparatus unless an alkaline solution is applied immediately afterwards. Every precaution should be used to keep the milk from becoming sour, or dangerous results may follow. The milk should not be strained through ordinary gauze, as flocculi or particles of thread may be washed into the current, and lead to pulmonary embolism. In a case of exhaustion from repeated intestinal hæmorrhages during the later stages of typhoid fever, occurring during the summer in a gentleman of prominence in this city, the patient was unconscious and apparently moribund when the transfusion was performed, which was followed by remarkable effect. The patient revived, and such decided improvement was manifest in less than twelve hours that the injection was repeated. He became conscious, took nourishment well, the passages were fewer in number, and for several days hopes were entertained of his recovery, but the hæmorrhages returned, and he died on the fifth day, of exhaustion. The third transfusion was attempted, but he expired during the operation. In all these latter operations goat's milk was employed. The details of this discussion and Dr. Pepper's paper will appear in regular form in the Proceedings of the Philadelphia County Medical Society, published in the columns of the Philadelphia *Medical Times.* F. W.

PHILADELPHIA, *October* 11, 1878.

SHORT COMMUNICATIONS.

A CASE OF IDIOPATHIC TETANUS.

BY FRANK L. SMITH, M. D., STAFFORD SPRINGS, CONN.

WILLIAM C., age twenty-four, nationality Irish, occupation weaver of woolen goods, had never had any serious sickness. I was called to see the patient on the evening of August 17th, and learned the following history: On the preceding Friday, August 9th, the man complained of a cold, with stiffness about the jaws; that he disliked to talk or eat on account of the fatigue caused thereby. He had been working for several days with wet feet, caused by leaky shoes, and attributed the trouble to that. As he became no better, on Sunday, August 11th, a doctor was summoned. The patient was at this time up and about the house, having hop poultices applied to the throat and jaws; he was informed by the doctor that he was following the proper course. The evening of Friday, the 16th, the writer was summoned. Found the man in bed, with anxious countenance, profuse perspiration, pulse 100, temperature in the axilla 102.5° F., respiration 28, urine normal, and bowels constipated. He was covered with a bright-red rash, which I judged to be the effect of some medicine he had taken. At short intervals he was seized with spasms of pain at the epigastrium, lasting from one to three minutes. The jaws were firmly closed, and any attempt to open them brought on spasm; marked opisthotonos; mind clear; had obtained little sleep for three or four nights. Very careful inquiry and inspection failed to elicit the history of any cut, bruise, or injury whatever; the disease could be referred to no cause. I immediately pronounced the case one of tetanus, and put the man on a drachm of chloral hydrate every two hours, and all the milk he would take.

August 18th, eight A. M. Found the patient more comfortable, sitting up in bed; reported having passed the best night since his sickness commenced; slept considerable; muscular rigidity somewhat relaxed, but unable to open the mouth; pulse 96; temperature 98.6° F. Kept him on the chloral, with generous nourishment.

Seven P. M. Has had a comfortable day. Was moved down-stairs; had to be carried, on account of stiffness of muscles of the back; pulse 100; temperature 100.5° F.

August 19th, eight A. M. Pulse 92; temperature 98.5° F., indicating improvement, notwithstanding which he did not have as comfortable a night; no improvement as regards rigidity of muscles of jaws or back; spasms rather more frequent. Pressed the chloral. Gave him three compound cathartic pills, and added stimulants to his milk. Eruption has disappeared.

Eight P. M. Pulse 100; temperature 100.5° F. Locates a constant pain at one inch below and two inches to the right of navel; point can be covered with the finger tip; no tenderness on pressure; abdominal muscles rigid, with sunken belly. Complains of the chloral "driving the breath out;" no improvement of jaws and back. Gave him one fourth of a grain of elaterium every hour until bowels moved, as injections and pills have had no effect.

August 20th, 7.30 A. M. Pulse 98; temperature 99.6° F. Has not taken his chloral at all regularly through the night; says he cannot swallow it; deglutition very difficult, some of the medicine returning; spasms the same; pain near navel gone; bowels moved after three doses of the elaterium. Substitute one eighth of a grain of morphia every two hours for chloral.

Eight P. M. Pulse 96; temperature 100.6° F. Condition remains unchanged; refuses to take stimulants. Give them by the rectum, and keep perfectly quiet, this having been enjoined at every visit. Continue same treatment.

August 21st, eight A. M. Pulse 108; temperature 99.4° F. Complains of a constant pain at epigastrium, increased during spasm; deglutition difficult; has not taken as much nourishment through the night; very restless; wants his position constantly changed, and when this is attempted it brings on spasm; body perfectly stiff when moved. Continue morphine and stimulants.

Eight P. M. Pulse 108; temperature 101.5° F. More restless; spasms recurring more frequently; takes no nourishment except by rectum; left hand strongly adducted; cannot turn in bed. A foamy saliva is constantly collecting in mouth, blown through the teeth, and wiped away.

August 22d, seven A. M. Pulse 118; temperature 103.6° F. Deglutition very difficult; muscular rigidity becoming more general; spasms excited by attempting to speak or to take liquids, and very frequent when not brought on thus.

Six P. M. Seen with Dr. Cassidy. Pulse 140; temperature 104.8° F. Spasms recurring almost constantly; power of deglutition nearly gone; patient says he shall die. Give him ten drops of Majendie's solution hypodermically, as he complains a great deal of the constant pain at epigastrium. Give injections of whisky and quinine.

At eleven o'clock of the same evening, while giving a half teaspoonful of whisky by the mouth, the patient suddenly began to struggle for breath. Thinking that some of the liquid might have entered the trachea, I turned him on his face with head depressed; the struggles continuing, I turned him back, and found the countenance livid, with blue lips, and in less than a minute all struggles ceased, and the man was dead. The muscles of respiration having been suddenly attacked he was unable to take another breath, and so died, asphyxiated. I might add that just at the last, after he was apparently dead, a series of general muscular spasms ensued, constant and very rapid, lasting for perhaps two minutes. No autopsy could be obtained.

I have been led to report the case in detail on account of the extreme rarity of tetanus as an idiopathic affection. Flint in his work on Practice says: "Idiopathic tetanus is everywhere rare, and in cold or temperate climates is one of the rarest of affections." An interesting feature of the case was the extreme frequency of the pulse during a spasm, it running up forty to fifty beats, and as rapidly subsiding when the spasm was over. Again, it will be observed that the temperature followed almost regular fluctuations for three days, being 98° and 100° respectively morning and evening for two days, and the next two 99° and 100°, when it took the sudden rise indicating the approaching end. The bladder was at no time affected, and the urine was normal throughout. The mind was perfectly clear up to the moment of suffocation. The disease lasted fourteen days from the time of the first sensation of stiffness about the jaws.

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"NEURALGIA" OF THE EYE.

Mr. Editor, — It may be premised that glaucoma is rarely recognized by general practitioners. From time to time specialists see persons suffering from this comparatively rare disease who have been treated for neuralgia, of which the following case is an example: Mrs. X., aged fifty-two. Sight dim in the left eye since 1868. In the summer of 1876, as I learned, severe pain, with lachrymation, appeared in both eyes. She received the treatment ordinarily adopted for neuralgia, but with the cessation of the pain the sight also disappeared, so that in December she could "see only across the street."

A year later, when first seen by me, she was totally blind, though she still complained of occasional pain. In both eyes the globe was very hard, pupil dilated, fundus not visible, reflex greenish; in fact, there were present the usual symptoms of absolute glaucoma.

This patient, it is most likely, had chronic glaucoma in her left eye for eight years, which took on an acute form when her right eye became affected. At this time some, at least, of these appearances could probably have been observed: injection of the eyes, with a flow of tears; the sensibility of the corneæ blunted; the irides dilated, perhaps irregular and discolored, and pressed towards the corneæ; and the eyes hard to the touch.

The patient would have complained of severe pain, chiefly at night, in the eyes and in the adjacent parts supplied by the fifth pair of nerves, of weakness of sight, and of seeing the colors of the spectrum arranged like a rainbow on looking at a lighted candle.

Setting aside the ophthalmoscope, by the use of which the diagnosis of glaucoma would have been arrived at, the foregoing symptoms, or as many as were present, were most likely sufficient to have given a clue to the nature of the disease. At that period *immediate operative interference*, instead of attempting to treat the neuralgia, might have saved in a great degree the sight of the patient.

The use of anodyne collyria, especially in their relations to this affection, merits notice. Happily, the old vinum opii, if still found in the shops, is now rarely applied to the eye for the quieting of pain. For this purpose it is quite worthless. In its place, but mostly for its mydriatic effect, the sulphate of atropia is at present much employed by general practitioners. In diseases of the iris and cornea its marked anæsthetic action on the ciliary nerves is shown by the relief of pain and intolerance of light that follow its use. Now, in chronic glaucoma where, for example, but one eye is affected, if, for the sake of securing its anodyne effect, a single drop of a 0.1 to 8.0 solution of atropine is instilled in the eye, an attack of acute glaucoma may ensue.

Dr. Hasket Derby and other observers (I can cite one case) have reported instances where, when the presence of this disease was not suspected, it quickly followed the use of this alkaloid. Unless, then, one is certain that the pain, redness, etc., are due to a diseased state of the iris or cornea, it would be well to hesitate before resorting to atropine.

Salem, *September* 13, 1878. Very respectfully, David Coggin.

STATISTICS OF THE BOSTON DISPENSARY.

The following are the statistics of the Boston Dispensary for the year ending September 30, 1878. The number of new patients treated at the central office is 22,694, classified as follows : —

MEDICAL DEPARTMENT.

	Men.	Women.	Children.	Total.
1st quarter	903	1724	1620	4247
2d "	1075	1466	932	3473
3d "	1038	2107	1071	4216
4th "	947	1844	1194	3985
Total	3963	7141	4817	15,921

SURGICAL DEPARTMENT.

	Men.	Women.	Children.	Total.
1st quarter	347	218	140	705
2d "	372	183	151	706
3d "	341	182	162	685
4th "	447	227	192	866
Total	1507	810	645	2962

DENTAL DEPARTMENT.

	Men.	Women.	Children.	Total.
1st quarter	149	232	261	642
2d "	158	176	183	517
3d "	128	168	214	510
4th "	219	179	273	671
Total	654	755	931	2340

SKIN DEPARTMENT.

	Men.	Women.	Children.	Total.
1st quarter	180	179	168	527
2d "	170	108	127	405
3d "	98	109	53	260
4th "	94	86	132	212
Total	542	482	480	1404

DEPARTMENT FOR DISEASES OF THE NERVOUS SYSTEM.

	Men.	Women.	Children.	Total.
1st quarter	12	10	4	26
2d "	9	11	1	21
3d "	10	5	1	16
4th "	2	1	1	4
Total	33	27	7	67

The number of new patients treated in the districts is 17,160, classified as follows : —

	Men.	Women.	Children.	Total.
1st quarter	624	1456	2291	4371
2d "	559	1619	2078	4256
3d "	479	1216	3102	4797
4th "	530	1271	1933	3736
Total	2192	5562	9406	17,160

The results of treatment are as follows : —

Discharged, cured, or relieved	16,144
Sent to hospitals or removed from districts	519
Died	525
Remaining under treatment	99
	17,287
Remaining under treatment at last annual report	127
	17,160
Number of cases treated at the central office	22,694
Total number of cases treated at the central office and in the districts	39,854
Whole number of patients treated since October, 1796	695,432
Whole number of patients treated since July, 1856	576,630
Average daily attendance at central office during the year	169+

Superintendent, William H. H. Hastings, M. D.

Surgeons, Thomas Waterman, M. D., Charles E. Inches, M. D., Water Ela, M. D., E. H. Bradford, M. D.

Physicians: R. Disbrow, M. D., R. H. Fitz, M. D., J. L. Hale, M. D., W. H. Baker, M. D., J. P. Oliver, M. D., A. M. Sumner, M. D., W. C. Holyoke, M. D., G. B. Shattuck, M. D., R. M. Lawrence, M. D., J. Dixwell, M. D., J. B. Ayer, M. D., J. F. Bush, M. D., F. H. Davenport, M. D., Abner Post, M. D., T. M. Rotch, M. D., M. H. Richardson, M. D.

Department for Diseases of the Nervous System. Physicians: D. F. Lincoln, M. D., F. W. Vogel, M. D.

Department for Diseases of the Skin. Physician: F. B. Greenough, M. D.

Dental Department. Dentist: F. E. Bunfield.

District Physicians: No. 1, G. W. Copeland, M. D.; No. 2, C. M. Jones, M. D.; No. 3, E. F. Hodges, M. D.; No. 4, E. C. Booth, M. D.; No. 5, S. Howe, M. D.; No. 6, A. T. Cabot, M. D.; No. 7, W. F. Whitney, M. D.; No. 8, W. J. G. Fogg, M. D.; No. 9, T. G. Reed, M. D.

Apothecary: F. H. Clark.

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ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XVI.

Office Surgeon-General U. S. M. H. S., Washington, *October* 26, 1878.

New Orleans, La. — During the week ended yesterday evening there were 699 cases of yellow fever and 229 deaths. Total cases 12,881, deaths 3864.

Plaquemine, La. — Total cases of yellow fever to October 20th 1159, total deaths 125.

Baton Rouge, La. — For the past week there were 170 cases of yellow fever and 15 deaths. Total cases 2340, deaths 144.

Morgan City, La. — There were seven deaths from yellow fever during the past week. Total cases to date 510, deaths 94.

Port Hudson, La. — Report to October 20th gives total cases of yellow fever 75, total deaths 10, including four resident physicians. The first case of the fever occurred September 9th, first death September 13th.

Mobile, Ala. — There were 71 new cases of yellow fever and 17 deaths during the week ended yesterday evening. Total cases 164, deaths 49.

Ocean Springs, Miss. — No deaths from yellow fever during the week ended at noon yesterday. There were eight new cases in Ocean Springs, and nine cases in the country not previously reported. Total cases 145, deaths 29.

Pass Christian, Miss. — For the past week there were 44 cases of yellow fever and five deaths. Total cases 170, deaths 18.

Water Valley, Miss. — Total cases of yellow fever to yesterday evening 146, total deaths 60. Six new cases yesterday.

PORT GIBSON, MISS. — The yellow fever has spread into the country. As near as could be ascertained about 30 deaths occurred in the past week. The colored people in the country repel the friendly aid offered them, for fear of having the yellow fever brought to them by nurses, while they are dying from it without knowing that it is yellow fever.

HUDSON, LA. — To October 13th there had been 75 cases of yellow fever and 18 deaths.

GERMANTOWN, TENN. — The first case of yellow fever occurred August 20th. First case among inhabitants August 25th. Total cases to noon October 16th 65, deaths 36.

MEMPHIS, TENN. — For the week ended the evening of the 24th inst., there were 50 deaths from yellow fever. Total deaths 2942.

BROWNSVILLE, TENN. — During the week ended yesterday evening there were 16 deaths. Total cases 560, deaths 152.

CHATTANOOGA, TENN. — For the past week there were 80 cases of yellow fever, and 23 deaths. Of these 51 cases and nine deaths were among colored people.

ST. LOUIS, MO. — At quarantine during the past week three residents were admitted and died of yellow fever. One patient previously reported also died of yellow fever.

CAIRO, ILL. — For the two weeks ended yesterday evening there were 44 cases of yellow fever, and six doubtful cases. Deaths for the same period 16. Total cases 75, deaths 41.

LOUISVILLE, KY. — There were four new cases of yellow fever for the week ended yesterday evening, and seven deaths. Total cases 131, deaths 61, including refugees.

CINCINNATI, OHIO. — No new cases of yellow fever during past three weeks; one death reported for the past week.

DECATUR, ALA. — During the week ended yesterday evening there were 23 new cases of yellow fever, and 13 deaths. Total cases 178, deaths 40.

BILOXI, MISS. — Up to October 17th there were 295 cases of yellow fever, and 40 deaths.

GREENVILLE, MISS.— To noon of October 11th there were 301 deaths from yellow fever, 21 of which were in the country outside of Greenville.

HERNANDO, MISS. — During the week ended yesterday evening there were 32 cases of yellow fever and seven deaths. Total cases 165, deaths 63.

No cases of yellow fever or deaths during the past week at PORT EADS, LA., SOUTH WEST PASS, LA., and KEY WEST, FLA.

HAVANA, CUBA. — Twenty-three deaths from yellow fever, and one from small-pox, for the week ended October 19th.

Deaths from four preventable diseases reported for the week ended October 19th : —

Enteric fever. — In Baltimore five deaths, Boston two, Brooklyn two, Charleston three, Cleveland one, Philadelphia nine, Richmond one.

Typhus fever. — One death in Brooklyn.

Scarlet fever. — In Baltimore six deaths, Brooklyn five, Cincinnati 14, Cleveland two, Philadelphia 13, Richmond one.

Diphtheria. — In Baltimore six deaths, Boston 14, Brooklyn 15, Charleston two, Cleveland 13, New Haven five, Philadelphia 13, Richmond two.

GREAT BRITAIN. — During the week ended October 5th there 3409 deaths in twenty-three large cities of the United Kingdom. The mortality was at the average rate of 21 annually per 1000 of the population. In Brighton the rate was 14, the lowest; in Liverpool 28, the highest. In the same cities, not including Edinburgh, there occurred 11 deaths from small-pox, 161 from scarlet fever, and 33 from diphtheria.

PARIS, FRANCE. — There were 30 deaths from enteric fever during the week ended October 3d. The annual rate of mortality per 1000 of the population, based on weekly mortality, was 22.5.

No deaths from cholera in Calcutta for the week ended August 24th, and none in Bombay for the week ended September 3d.

No reports received from the following places where yellow fever exists: Vicksburg, Miss.; Holly Springs, Miss.; Canton, Miss.; Grenada, Miss.; Bay St. Louis, Miss.; Friar's Point, Miss.; Mississippi City, Miss.; Spring Hill, Miss.; Crystal Springs, Miss.; Hickman, Ky.; Grand Junction, Tenn.; Paris, Tenn.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

ALCOHOL AS A LOCAL APPLICATION IN WOUNDS.

In the spring of 1862, Professor Pancoast, of Philadelphia, removed a small tumor from my neck, and applied his styptic to the wound. There was very sharp smarting for a minute or two, when the wound was closed. Dr. Pancoast claimed that this checked bleeding from the small vessels and otherwise promoted the healing process. The recipe is as follows: —

℞ Castile soap	ʒi.
Bicarb. potass.	ʒij.
Alcohol	℥iv. M.

Apply with pledgets of lint.

I should think there would be but little difference, if any, between the therapeutic effect of this and that of pure alcohol as recommended by Professor Gosselin. See Journal, *courant*, page 369.

J. O. Whitney.

Pawtucket, R. I., *September* 21, 1878.

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Boston Society for Medical Observation. — The next meeting of the society will be held at the rooms on Temple Place on Monday evening next at eight o'clock. As business of importance will come before the society a full attendance is desired.

Medical Library Association. — The Library has moved to its new house, No. 19 Boylston Place.

Erratum. — In the thirteenth line of page 532, for "indignant" read "malignant."

Books and Pamphlets Received. — The Nature and Treatment of Inebriety. Also, The Opium Habit and its Treatment. By Dr. Edward C. Mann. New York: Charles A. Coffin. 1878.

The Principles and Practice of Surgery. A Treatise on Surgical Diseases and Injuries. Vol. I. By D. Hayes Agnew, M. D., LL. D., Professor of Surgery in the Medical Department of the University of Pennsylvania. Philadelphia: J. B. Lippincott & Co. 1878.

The Duties of the Medical Profession concerning Prostitution and its Allied Vices. An oration delivered before the Maine Medical Association. By Frederick Henry Gerrish, M. D., Professor of Materia Medica, etc., in Bowdoin College. Portland: Loring, Short and Harmon. 1878.

Treatment of Fracture of the Shaft of the Femur. The "American Method." A paper read before the Minnesota State Medical Society. By Franklin Staples, M. D., of Winona. St. Paul: H. M. Smith & Co. 1878.

On the Use of the Solid Rubber Bandage in the Treatment of Eczema and Ulcers of the Leg, and On Diet and Hygiene in Diseases of the Skin. Two pamphlets by L. Duncan Bulkley, A. M., M. D., Physician to Skin Department, Demilt Dispensary, New York. New York: G. P. Putnam's Sons. 1878.

Communicable Diseases of Childhood, and some Suggestions for their Prevention. By Henry R. Baldwin, M. D. Newark, N. J.: L. J. Hardham, Printer.

The Cell Doctrine: Its History and Present State. For the Use of Students in Medicine and Dentistry. Also a copious bibliography of the subject. By James Tyson, M. D. Second Edition. Philadelphia: Lindsay and Blakiston. 1878. (A. Williams & Co.)

THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIX. — THURSDAY, NOVEMBER 7, 1878. — NO. 19.

A CASE OF HYDROPHOBIA: WITH REMARKS ON THE PATHOLOGICAL PHYSIOLOGY OF THE DISEASE.[1]

BY T. B. CURTIS, M. D.

Case. (Reported by Mr. J. B. Wheeler, house-pupil at the Massachusetts General Hospital.) A. B., of Boston, age sixty-eight, lamplighter, had of late years enjoyed very good health, with the exception of an epithelioma of the lower lip, which was "drawn" by a female cancer-doctor three weeks before entrance. He was a large, powerful man, in remarkably good muscular condition for his time of life. Mentally, he seemed a fine specimen of an uneducated American. He was ignorant but intelligent, of a manly character, and much respected in his neighborhood. On July 19th — about seven weeks before his admission to the hospital — he was bitten in the right thumb by a strange cat which he attempted to caress. The wound was not cauterized. A "bone-felon" ensued, which was treated with various poultices, and necrosis of the distal phalanx of the thumb occurred.

On the morning of September 9th the patient appeared at the Massachusetts General Hospital, and was given a bed in the wards of Dr. C. B. Porter, whose place was then being temporarily filled by Dr. T. B. Curtis. He complained of difficulty of swallowing, first noticed at supper the evening before, no such trouble having been experienced at dinner, and of entire inability to eat his breakfast that morning. This outbreak of characteristic symptoms had not been preceded by any change of character or emotional disturbance. During the night, however, he had been very restless, and at breakfast he found that the attempt to put liquid in his mouth brought on a paroxysm characterized by choking, gasping, and by rapid, irregular movements of the arms and legs. Dr. C. C. Street, who was called in, refrained from acquainting the patient with the nature or gravity of his symptoms, but advised him to enter the hospital at once.

At the time of his arrival the patient appeared very "nervous," excited, and restless, though perfectly rational. He could not remain seated, but in the course of a few minutes, while conversing, would walk about the room, throw himself on the bed, and then suddenly jump up and sit in a chair. His expression was anxious, although he did not seem troubled about himself, and complained only of the paroxysms, which came on with every attempt at swallowing. He talked rapidly, but with frequent hesitations in the middle of his sentences, as if out of breath, — a circumstance which his wife said she had never noticed before. His mouth was dry, and some viscid saliva stuck to his lips and teeth. The pulse was 88.

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[1] Read before the Boston Society for Medical Observation, October 21, 1878.

A private room was assigned to the patient. He made little or no complaint, and was disposed to converse in a rational and sociable way, but he was very restless, roaming about almost incessantly in quest of fresh air. At six P. M. one sixth of a grain of sulphate of morphia was given subcutaneously, with no apparent effect. At eleven P. M. one fifth was given, and at 2.30 A. M. of the next day one third of a grain. The only effect was to make the patient overstate the length of the short naps which he took. In the morning he reported himself as having passed a very comfortable night and slept several hours, the truth being that he walked the corridors and piazza almost all night, and did not sleep in all over half an hour. At 2.30 A. M. he asked if his paroxysms could be due to the bite of the cat, "for," he said, "a cat hates to get wet, and wetting me always brings on the trouble."

September 10th, ten A. M. The patient is a little more comfortable this morning, and appears less nervous and excited. He had slept from nine to 9.30 A. M.

At eleven o'clock a consultation was held, at which Drs. Cabot, Shaw, Warren, and Curtis were present. A glass of water was offered to the patient, which he refused to take, saying that he could not stand so much as that, but would take it from a teaspoon. On taking up the water in the spoon he evinced some discomfort and agitation, but continued to raise the spoon. As it came within a foot of his lips he began to gasp violently, his features worked, and his hand shook. He finally almost tossed the water into his mouth, losing the greater part of it, and staggered about the room, gasping and groaning. The respiration seemed at this moment wholly costal, and was performed with great effort, the elbows being jerked upwards with every inspiration. The paroxysm lasted about half a minute.

The act of swallowing did not appear to distress him, for he could go through the motions of deglutition without any trouble. The approach of liquid to his mouth, however, would at once cause distress. The same effects were occasioned by wetting the face, by dipping the tip of one finger into a cup of water, by trying to hold a lump of ice in the hand, or by a sudden and strong current of air. On being gently fanned as he sat talking, the patient sprang instantly from his chair, with a look of surprise and alarm, and went into a violent paroxysm similar to those produced by attempts to drink. He described his sensations as resembling those which would result if a pailful of ice-water were suddenly thrown in one's face. Nevertheless, a slight draught, he said, was agreeable, but if it came too strong it took his breath away in a very unpleasant manner. He complained continually of want of air and of oppression, and was all the time moving restlessly about, going into the corridors and on to the piazza, in quest of more air.

The patient did not appear to entertain the slightest suspicion of his being affected with hydrophobia, of which disease he was apparently wholly ignorant; nor did he, at first, seem to connect his sufferings in any way with the injury to his thumb caused by the cat bite. He talked a good deal about his cancer (which was in a state of progressing ulceration), and was enthusiastic and garrulous on the subject of the cure which he supposed had been effected. In order to divert his attention from the graver disorder, the cancer was always spoken of, in his presence, as if it were the interesting feature of his case, and the patient remained to the end in ignorance of the nature of his disease.

At the consultation which was held no doubt was entertained of the existence of hydrophobia. It was decided that the treatment by curare [1] should be instituted, and that the administration of the drug should be persevered in, with rapidly increasing doses, until relief of the paroxysms or the production of commencing toxic symptoms (muscular paresis). It was also decided that, the rectum having first been emptied by an opening enema, frequent nutritive enemata should be injected. The order was consequently given to the attendants to administer every four hours an enema of four ounces, warm water, beef tea, and wine whey being used in turn.

At 2.10 P. M. the first subcutaneous injection of curare, containing one third grain, was given by Dr. G. B. Shattuck, who kindly took charge of the patient for a couple of hours. The drug was procured from Theodore Metcalf & Co., and was imported by them from E. Merck, of Darmstadt. It was in the form of dark brown, hard, dry, glistening fragments, like fine gravel. The solution, containing one part of curare in ten, was prepared in the hospital shortly before being administered.

At 2.20 P. M. respiration superficial, 20 to a minute. At 2.30, a copious opening enema of soap, salt, molasses, and warm water was administered, and operated freely in five minutes. At three, four ounces of wine whey were given per rectum. At 3.15, the pulse was 80, the respiration 22. Face a little flushed. No other change was observed.

At 3.20 P. M., curare one third of a grain. At five, an enema of beef tea (four ounces). At 5.15, curare one third of a grain. Pulse and respiration as before. At six, curare one half grain. No change. At seven, enema of warm water (four ounces). At 8.45, curare three fourths of a grain. No effect was thus far visible, except slight flushing of the face. At nine, curare three fourths of a grain. At 10.45, curare three fourths of a grain.

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[1] For the arguments in favor of this plan of medication see the JOURNAL, March 7, 1878, page 315, and August 29th, page 264.

At eleven P. M. The patient was much more restless; so much so that a night-watcher was found necessary. He complained of shortness of breath, with occasional paroxysms such as have been already described. A slight paroxysm was occasioned by the administration of the last enema. Pulse 90; respiration varying from 40 to 60.

September 11th, 12.45 A. M. Pulse 90; respiration 25 to 30. Curare three fourths of a grain. At one A. M. enema of water (four ounces), by which a slight paroxysm was excited. Patient expressed a suspicion that there was some connection between his present sufferings and the cat-bite. At three A. M. very restless. Curare, a grain. Enema of wine whey, four ounces.

At 3.30 A. M. the patient appeared very weak, and staggered when walking from one side of the corridor to the other. His knees seemed to give way under him. He had hitherto walked with a firm, but somewhat rolling gait, not remarkable in one who had formerly been a seafaring man. Mind clear.

At five A. M. enema of beef tea. Curare, a grain. As the stock of curare in the hospital had given out, a one per cent. solution, kindly furnished by Dr. A. N. Blodgett and previously tested by him, was used. The patient was restless, insisting on going home, and complaining that the curare was making him so weak that he would not be able to walk home. He did not, however, appear particularly weak at this time. As the administration of the last enema had excited a violent paroxysm, and as the attacks were recurring quite frequently, the enemata were discontinued. About this time, early in the morning of the 11th, the patient began to spit large quantities of very thick, tenacious saliva. The act of exspuition was accompanied by violent efforts to throw the spittle as far as possible. At each act of spitting the head was jerked back as the spittle left the mouth, and the lips were drawn away from the teeth, the object of this manœuvre being, apparently, to avoid the contact of the saliva as much as possible.

At 6.15 A. M. the patient, who in the course of the preceding eighteen hours had received six and a half grains of curare, escaped from his watcher, the latter having probably fallen asleep. He ran out of the ward and across the hospital grounds, clambered with great agility and *apparently unimpaired muscular force* (according to the account given by those who saw him) over the high fence, and got into Charles Street. He was soon found in a yard opposite the jail, and was brought back to the hospital without making much resistance. After his return the paroxysms succeeded each other at intervals of from five to ten minutes. Pain in the head was complained of as being constantly present and becoming excruciating during the paroxysms. His attendants were frequently called upon to hold his head and compress his forehead, which proceeding seemed to afford some relief. As the patient felt the approach of a paroxysm he would suddenly spring to his feet from his bed or chair and throw himself on his knees before some article of furniture, against which he would lean, while spitting frantically in the way already described, and screaming, "For God's sake, hold my head, or it will burst!" During the paroxysms, and sometimes between them, he would struggle violently, at times trying to rush out of the room, or to throw himself out of the window. Three men were required to hold him. He made no attempts to bite or scratch, but struck with his fists three or four times. Occasionally he would berate and curse the attendants, insisting that they were imprisoning him, and giving him curare to make him drunk. One of the ward-tenders, whose appearance reminded him of his grandson, was the only person who remained on good terms with him. This attendant he insisted on having near him, and would occasionally caress him and joke with him. At times, his utterances were delirious. He frequently inquired with anxiety whether the sink in his kitchen had been cleaned out last night. His remarks were often jocular, and sometimes somewhat obscene. He perspired freely the whole time.

At seven A. M., curare one grain (Dr. Blodgett's solution). The patient tried to swallow a wineglassful of water, but failed to get more than a teaspoonful into his mouth. At eight A. M. he succeeded in swallowing a wineglassful of cold water; a paroxysm ensued.

At 8.15, curare one and a half grains (Dr. Blodgett's solution). Behavior somewhat less violent; paroxysms less frequent, and rather less severe. Pulse strong and hard, from 96 to 120. At nine A. M. the patient's wife arrived. Her presence seemed to soothe him a little. When he felt a paroxysm approaching he would send his wife out of the room, and let her return when it was over. At the height of the paroxysms he would exclaim that he was going to die, that he could not stand it any longer; but in the intervals he frequently expressed confident hopes of recovery.

At 10.15, curare one and a half grains (hospital ten per cent. solution). Paroxysms about the same. General behavior less violent. At eleven, suffered more than before, if possible. Curare two grains. At 11.30, showed failure of strength. Pulse feeble. Shirt and flannel changed because soaked with perspiration. At twelve, was somewhat easier. Was quite playful and affectionate with his favorite attendant, whose beard he pulled, then laughed, and tried to kiss him.

At one P. M., much weaker. Reclined on the floor, with head resting against a chair. *Paroxysms every two minutes.* No longer asked to have his head held, but wished to be supported so that he could spit more easily. Curare two grains.[1] At 1.20, pulse very weak. His movements appeared feeble, but the paroxysms continued unchanged. At 1.30, pulse imperceptible, breathing rapid, pupils normal, paroxysms still as frequent as before, but each one weaker than the preceding one. About this time he was lifted upon the bed, and while there became excited, and tried to get up and leave the room, displaying *considerable muscular strength* in his struggles. After this he very rapidly grew weaker, lost consciousness, and died quietly, without any paroxysmal phenomena. The paroxysms continued until within a few minutes of death, but were very feeble, and somewhat less frequent than they had been a few hours before.

The autopsy was made by Dr. E. G. Cutler. The brain and spinal cord were placed in hardening fluids and reserved for microscopical examination.

REMARKS. — The striking resemblance of a hydrophobic paroxysm to the shock of a shower-bath — a resemblance recognized both by the patient and by his attendants — will, I think, give us the key to the pathological physiology of the disease now under consideration. Let us, then, first investigate, so far as our existing knowledge allows, the analogous dyspnœic phenomena observable under certain circumstances in healthy persons, with a view to ascertaining the nature and mode of production of these manifestations. For this purpose a few facts of experimental physiology relating to the functions of the respiratory centre must be recalled.

Respiration is effected by the alternate contraction and relaxation of certain muscles animated by motor impulses proceeding from the respiratory centre in the medulla oblongata. This nervous centre is constantly at work, supplying the needful amount of motor stimulus to the respiratory muscles. In order that the activity of the respiratory movements may to a certain extent be accommodated to the varying needs of the organism, an arrangement exists by which the activity of the respiratory centre, when excessive, or for the time being superfluous or harmful, can be diminished or even wholly annulled. This result is accomplished by the operation of what is called an *inhibitory* influence. Inhibition, or "arrest," consists in a paralyzing or stilling effect exerted by a centripetal, sensory impression upon an active nervous centre supplying motor stimulus. Inhibitory action is therefore just the opposite of reflex phenomena, though not without analogy to them, for, in the case of a reflex function, an excito-motor influence is exerted, whereas the effect produced by inhibition, on the contrary, is depresso-motor. The well-known experiment of Goltz, in which a frog's heart is suddenly stopped by a tap upon the abdomen, is one of the most familiar examples of inhibition.

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[1] These last doses of curare were, to say the least, superfluous. I do not believe that I should have allowed them to be given if I had been able at that time to be present. I was, however, engaged in operating upon a case of strangulated hernia, and could not then give my attention, as I should have wished, to the hydrophobic patient. The last doses were administered, in accordance with the instructions given at the outset, for the reason that the paroxysms were growing more and more frequent, and that the patient's struggles were still at times very vigorous. In fact, with the exception, perhaps, of the profuse perspiration, no unequivocal signs of curare-poisoning, not attributable to the progress of the disease itself, were observed. I am, however, persuaded that it must be very difficult, if not impossible, to discriminate between the toxic effects of the drug and the natural symptoms of the disease in its advanced stage. My reasons for this opinion will be given later. — T. B. C.

Of all the inhibitory influences to which the respiratory centre is subjected, none is more typical of inhibition in general, or more striking in the directness, completeness, and simplicity of its action, than that exerted by the *superior laryngeal* branch of the vagus. Rosenthal's experiments, confirmed by Claude Bernard and many others, and also borne out by the recent researches of Bukart,[1] show that when the central end of this nerve is stimulated, after its denudation and division, respiration is immediately suspended, the diaphragm, paralyzed and relaxed, being thrown into an attitude of extreme expiration.[2] According to Brown-Séquard, the same result can be produced by direct irritation of certain parts of the medulla. Respiration ceases, the heart continuing to beat for a while more or less rapidly and strongly. "This arrest of respiration," he says, "is *not due to a reflex spasm* of the diaphragm or of the intercostal muscles, but to a cessation of action of these muscles, caused without doubt by the cessation of action of the respiratory centre." [3]

A similar influence — ranging in the intensity of its effects from the production of a more or less marked condition of breathlessness, dyspnœa, gasping, or respiratory distress and anxiety to sudden death by paralytic apnœa — is exerted by a variety of peripheral stimuli. Thus Schiff has shown that powerful excitations of the nerves of general sensation, particularly of the fifth pair, cause slowing of the respiratory movements. It is not only the nerves of sensation, conscious or unconscious, which can thus convey an inhibitory influence to the respiratory centre. A similar effect is produced by psychical impressions (exciting or depressing emotions) proceeding from the emotional regions of the brain to the medulla. This fact is exemplified by the breathlessness which is experienced under circumstances of great alarm or excitement, as well as by the depressed state of the respiratory function caused by profound grief. In the latter case arrears of breathing have to be made up by frequent semi-volitional sighs.

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[1] Pflüger's Archiv, vol. xvi. page 427. Revue des Sciences médicales, vol. xii. page 424.

[2] According to Arloing and Tripier (Archives de Physiologie, etc., vol. iv., 1871, page 735) the left vagus is chiefly concerned in controlling the respiratory centre, while the activity of the heart is principally under the influence of the right vagus.

[3] Archives de Physiologie, etc., 1869, page 767.

As in the case of bodily pain, this physiological function of respiratory inhibition, though familiar to us chiefly by its unpleasant or harmful manifestations, really subserves a useful end in providing a means of protection for the respiratory organs against injurious external agencies. The superior laryngeal nerve, whose inhibitory influence is so remarkable, supplies sensation to the mucous membrane of the base of the tongue, of the upper part of the anterior wall of the œsophagus, of the epiglottis, and, lastly, to the laryngeal mucous membrane. When stimulated by an irritating contact, such as attends the penetration of foreign bodies, liquids, or irritating vapors and gases into the air passages, paralysis of the diaphragm at once takes place, with *extreme expiratory relaxation*, so that inspiration is rendered for the time being impossible. The further penetration of the irritating agent is thus prevented.

This same protecting agency is brought into play in every normal act of deglutition to prevent the entrance of solid or liquid food through the glottis. "The first requisite for the act of swallowing," says Professor Dalton,[1] "is the suspension of respiration. This takes place at the beginning of deglutition by a nervous mechanism which it is difficult to describe, but which may be designated as an 'action of arrest.' The same nervous impression which excites by reflex action the constrictors of the pharynx suspends for a time the movements of inspiration. This effect is very perceptible in the ordinary act of swallowing, and was witnessed by Waller and Prévost in many of their experiments on this subject; galvanization of the central extremity of the superior laryngeal nerve causing immediate relaxation of the diaphragm, with stoppage of its movements."

Swallowing is not the only physiological act normally attended by respiratory inhibition. The act of inspiration itself, according to Wundt, is a constantly recurring cause of the same phenomenon. When the lungs are fully inflated an inhibitory impression is conveyed through certain fibres of the vagus to the respiratory centre. Inspiration is thus rendered, as it were, self-inhibiting.

Without dwelling further on our experimental knowledge of this function of the nervous system, I will briefly recall a few familiar illustrations of its effects as witnessed and experienced in human beings. In the first place, all persons know the uncomfortable sensations caused by a shower-bath, consisting in breathlessness and respiratory distress, often attended by great anxiety or even terror, and most marked in children, and in timid, emotional, so-called "nervous" persons, in whom there is reason to believe that the emotional regions of the hemispheres are but imperfectly under the control of the higher (volitional and rational) cerebral functions. The same distressing state of apnœa is not unfrequently caused in sea-bathers by wading into the sea, and some persons find themselves wholly unable to withstand the deterrent effect so produced. Water splashed in the face and on the chest has a similar action, as also submerging the face in a basin of water. A glass of strong, hot, steaming punch will sometimes "take one's breath away" by the same mechanism.

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[1] Physiology, sixth edition, 1875, page 367.

Sudden death by apnœa, caused in the same way as the transient disturbances mentioned above, occasionally takes place. Such, for instance, is the mechanism of sudden death in tracheotomy, in fractures and other violent injuries of the larynx, and in garroting.[1] The mysterious drowning of expert swimmers, who suddenly sink, with or without a cry of distress, — an accident commonly attributed to a supposed "cramp," — may, perhaps, also be due to respiratory inhibition with expiratory relaxation of the diaphragm, resulting from the penetration of water into the larynx. The immediate sinking of the swimmer would thus be accounted for. Of all the examples of sudden death due to this agency, however, none is more interesting than the fatal accident which occasionally takes places in the first stage of chloroformization.[2] In such cases respiration suddenly ceases, the heart continuing for a short while to beat,[3] as in Brown-Séquard's experiments alluded to above. According to this view, the so-called "chloroformic idiosyncrasy," invented to account for certain inexplicable deaths caused by the inhalation of chloroform, consists simply in an exceptional susceptibility to respiratory inhibition, originating, perhaps, in emotional or traumatic collapse. Herein lies the great superiority of ether over chloroform. In consequence of its pungent odor, ether undoubtedly occasions a certain degree of initial respiratory distress, lasting until the mucous membranes exposed to its vapor have become locally anæsthetized. Its local action, however, is far less irritating than that of chloroform, and it has never, I believe, been known to cause sudden death in the first stage of administration, in the unexpected way peculiar to chloroform.

The last illustration of respiratory inhibition in disease which I shall adduce is perhaps somewhat hypothetical. The opinion has been advanced that paralysis of the diaphragm might be one of the causes of asthmatic attacks.[1] However this may be, one would certainly expect that so important a function as respiratory inhibition would, like all the other physiological functions, be liable to morbid derangements. It seems, therefore, rather surprising that its disturbances should have played so small a part in pathology.

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[1] Leven has shown, by experiments on animals, that a ligature tied around the trachea, so as to constrict it somewhat, without preventing the passage of air, causes immediate slowing of the respiration, and that a ligature tied tightly around the trachea causes instant death. If, however, the vagi are previously cut the ligature no longer causes sudden death, but kills more slowly by asphyxic accumulation of carbonic acid. Archives de Physiologie, etc., 1870, page 176.

[2] Mathieu and Urbain attribute certain deaths by chloroform to the arrest of respiration, caused by irritation of the laryngeal mucous membrane. Archives de Physiologie, etc., vol. iv., page 586.

[3] Giraldès. Nouveau Dictionnaire de Médecine, etc., article Anesthésie, vol. ii., page 246.

(*To be concluded.*)

CARDIAC EMBOLISM FOLLOWING DELIVERY.[2]

BY JOHN L. SULLIVAN, M. D., MALDEN.

Mrs. C. F. B., American, in good circumstances, was delivered of her first child, a vigorous female, weighing eight pounds, on the evening of March 6th. Previous to her confinement I saw the lady once, when I gathered the following particulars: Parents both living, and in good health. Her own health during childhood and before marriage usually good. When quite young she had typhoid fever, a mild form, from which she recovered without drawback. Several years ago, after violent mental emotion, was attacked with distressing palpitation, which soon ceased, and which did not prevent her attending a ball given on the same night, and dancing every "set" without inconvenience. Since then no cardiac symptoms of which she was aware, and none now discoverable by auscultation. At times troubled with leucorrhœa. During gestation health seemed to improve, "pregnancy agreeing with her;" had experienced, however, especially during the latter months, a sensation of "inward heat," as she described it, which enabled her to endure without discomfort a lower temperature than was agreeable to other persons, and to dispense with warming the rooms which she occupied.

The labor was in all respects natural, and easier than falls to the lot of most women with the first child. Head presentation, right occipito-anterior. Duration, from the earliest indication of uterine action to the expulsion of the placenta, ten hours. A few moments after the birth of the child, the after-birth, expedited by external pressure, came away; the uterus contracted immediately to the typical cricket-ball size and "feel," so gratifying to the accoucheur; and when, half an hour later, I retired, both mother and child seemed "as well as could be expected."

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[1] Bamberger, quoted by J. B. Berkart, on Asthma, London, 1878, page 37.

Professor Sée asserts that "the dyspnœa of asthmatic patients is due, in the immense majority of cases, to a centripetal excitation of the vagus and of the superior laryngeal nerve." Nouveau Dictionnaire de Médecine, article Asthme, vol. iii., page 630.

Dr. B. Edson recently reported a case of severe dyspnœa under the title of Paralysis of the Diaphragm. (New York Medical Record, September 21, 1878, page 229.) The opinion was subsequently expressed that Dr. Edson's case might have been hay fever of a somewhat exceptional character. (W. C. Wey, New York Medical Record, October 12, 1878, page 289; G. M. Beard, New York Medical Record, November 2, 1878, page 348.)

[2] Read before the Boston Obstetrical Society, April, 1878.

March 7th. This morning Mrs. B. was reported by the nurse to have "flowed more than usual during the night," a symptom which could not be attributed to relaxation of the womb, as that organ was found, on examination, in the same state of firm contraction it had assumed the previous night. Opium and ergot were ordered in moderate doses every third hour.

March 8th. This forenoon, on attempting to sit up in bed to pass water, the patient voided a considerable quantity of dark coagula, which had accumulated in the vagina, and for a few moments afterwards was faint. On my arrival, however, I found her quite recovered, that is, in good spirits, neither blanched in countenance nor presenting any symptoms of exhaustion. There was no subsequent hæmorrhage, although the opium and ergot were omitted, and the lochia henceforward continued scanty in quantity and greenish in color; in short, quite normal. The voiding of the coagula and the nurse's estimate of the amount of blood lost during the night following delivery are recorded not as important in themselves, but as forming part of the clinical history of an unfortunate case.

March 9th. Very comfortable; pulse 80; temperature 99° F.; appetite good; bowels open; urine copious, and of good color.

March 10th. I shared to-day the patient's disappointment (she was anxious to suckle her infant) not to find some evidence of activity in the breasts, which were more flaccid than yesterday. Other symptoms favorable.

March 11th. The breasts are still quite soft. This P. M. Mrs. B. complained of a disagreeable sensation suddenly felt in the inside of the left leg and thigh, which she described as "something between a numbness and a chilliness." This sensation speedily vanished, leaving behind it no trace of pain, swelling, redness, heat, or tenderness on pressure. And at no subsequent period in the progress of the case could any of these symptoms be detected, although inquiries were made, and the limb, including the groin, examined in its entire length at each visit. One hour after the above-described attack she was seized with violent and distressing palpitation resembling that experienced on the afternoon preceding the ball. Thereupon she burst into a paroxysm of hysterical weeping and sobbing. At this moment I entered the room. "Oh, doctor," she exclaimed, "I have that heart trouble again!" I was not long in ascertaining that something unusual had happened, for the heart was indeed beating with fearful rapidity, unlike anything I had ever before observed, attended with a heaving impulse in the præcordial region visible through the clothing. It was impossible to count the pulse at the wrist, or to determine its frequency by auscultation. It could not have been, however, less than 200 per minute. Both sounds of the heart were distinctly audible, and were accompanied with a bruit or whiff which suggested the puff of a locomotive engine at full speed.

The respiration was somewhat quickened (32 per minute), but not in proportion to the pulse. Moderate difficulty of breathing was complained of, but there was no perceptible lividity of the lips or face, and the expression was not in the least anxious or distressed, so that as soon as the patient's tears were dried, and she had recovered her wonted composure, she did not *look* ill. Temperature 101°. Urine drawn by the catheter and tested for albumen, etc., gave negative results.

A mixture containing tr. castor, tr. digitalis, with spirits of nitric and sulphuric ether, was directed to be taken hourly.

March 12th. This morning Mrs. B. welcomed me with a cheerful smile, and in accents equally cheerful informed me that she was much better, — a favorable impression which I was unable to corroborate, her condition having certainly not improved. On the contrary, the pulse had become weaker, and, if possible, more rapid; the temperature had risen to 103°, and the respiration to 40 per minute. Since my last visit she had assumed the left lateral posture (with the knees drawn up), from which she could not be moved on account of the increased difficulty of breathing induced by the slightest change in her position. Notwithstanding this ominous circumstance she insisted that she had been greatly relieved by her medicine, predicted a speedy recovery, and had evidently no suspicion of impending danger. And indeed her countenance was so animated and cheerful, her expression so natural, and her general appearance so strikingly in contrast with the apparent gravity of her other symptoms that it was difficult to accept the conclusion that death was inevitable, and at hand. Still, I felt it a duty to communicate to her friends my convictions that the case was one of cardiac embolism, which would prove fatal in a few days at furthest, possibly in a few hours.

March 13th. At my request Dr. Minot saw the patient to-day. After examining the case with great care, and fully recognizing its alarming features, he ventured to express a faint hope, unhappily destined to disappointment, that we might have to do not with embolism, but with hysteria simulating that condition. Agreeably to his suggestion, the digitalis was continued in larger doses, and the same nourishing and sustaining measures that had been employed from the beginning were still persevered with. Temperature 106.5° ; respiration 48–52; pulse as heretofore.

March 14th. Much worse; left knee swollen and painful; one half of right breast perfectly soft and flaccid, the other half swollen, livid, and tense; the entire left breast in the same swollen condition; tongue swollen to four times its natural size, hard, very painful, and protruded with great difficulty; deglutition well-nigh impossible; voice inaudible; orthopnœa; failing pulse; restlessness; jactitation. Death occurred at six o'clock P. M., consciousness being retained to the last moment.

An autopsy was refused.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M. D.

Division of Ciliary and Optic Nerves; a Substitute for Enucleation. — The idea is not altogether new, though it has only recently been put in practice. According to Boucheron, Rondeau suggested it in a thesis in 1866. Von Graefe[1] referred, in the following year, to division of all the ciliary nerves behind the eye to prevent sympathetic ophthalmia only to pronounce it incompatible with preservation of the eye. Boucheron[2] proposed division of opticus and ciliary nerves as a general substitute for enucleation, and gave directions for the operation as he had performed it on the cadaver. He had convinced himself by experiments on cats and dogs that in most cases the eye could be saved after the operation. Cases of trauma, and operations by Knapp, Gruening, and Mauthner on tumors of or surrounding the optic nerve have shown that the optic and the greater part at least of the ciliary nerves may be divided, and the form and appearance of the eyeball retained.

Schoeler's[3] paper is a valuable contribution to the subject, and demonstrates the complete practicability of the procedure. He recommends optico-ciliary neurotomy instead of enucleation in all cases in which the latter is indicated, except those of malignant tumors. In his enthusiasm for the new method he is perhaps somewhat unjust to the old. The disagreeable features which often attend the condition following enucleation — the increased and altered secretion from the conjunctiva, and its overflow upon the skin of the lower lid; the turning in of the lashes, and consequent irritation when, on account of the expense or from other cause, an artificial eye is not worn; the immobility of the artificial eye, and the danger of exciting inflammation of the conjunctiva from the pressure of its edges when one is worn — are strongly emphasized. Enucleation is characterized as "the most hateful of all operations on the eye," and he even seems disposed to believe, though he does not actually assert, that the "preservation of the most misshapen eye is of greater advantage to the patient than the finest artificial eye." This is not, however, from objection to the artificial eye *per se*, since one of the great advantages of retention of a phthisical eye is found in the facility of motion which it imparts to the artificial eye worn over it.

The operation advised is as follows: the eye is rolled inward by an assistant, the external rectus is tenotomized, and a catgut suture passed through the muscle and overlying conjunctiva. Then the conjunctiva is divided from the inferior to the superior rectus, and dissected up with curved scissors, keeping close to the globe, till the opticus is reached.

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[1] Berliner klin. Wochenschrift, 1867, page 320.

[2] Gazette méd. de Paris, tome v., page 442, 1876.

[3] Jahresbericht ueber die Wirksamkeit der Augenklinik, Berlin, 1878.

The optic nerve is cut with enucleation scissors. If there be now much bleeding, the lids are closed and pressure made on them with a sponge for a few minutes. Has bleeding ceased, the globe is rolled strongly inward, and the ciliary nerves severed by a neurotome shaped like a strabismus hook. Now, the globe being rolled inward while pressure backward is made on the outer commissure, the stump of the opticus may be brought into view, and the assurance obtained that all nerves have been divided. Finally, the rectus externus is united to its tendon by the suture, and a compressive bandage is applied.

Schoeler has operated in ten cases. In seven of these there was tenderness in the ciliary region; in one a staphylomatous leucoma, with ciliary neuralgia; in one severe pain in an eye blind from glaucoma; in one the eye was enlarged and staphylomatous. Six of the eyes were already diminished in size before the operation. In these the operation was easily performed, the accompanying bleeding of small amount, the exophthalmos following section of the opticus inconsiderable, and healing took place in from three to eight days. When the eye was enlarged or of normal size the operation was more serious. In two such cases there was at first so great an amount of exophthalmos that in the one the lids could not be wholly closed; in the other the eye was pushed in front of the lids. Both, however, eventually did well. In these two cases there was no tenotomy of the external rectus, the wound in the conjunctiva extended only between two of the recti muscles, and after division of the opticus no pressure was made to check bleeding, and it is to these circumstances that Schoeler refers the exceptional degree of exophthalmos.

In a discussion on the subject in the Berlin Medical Society, Hirschberg[1] warmly defended enucleation against the objections made to it by Schoeler, but he has stated more recently[2] that he has since performed optico-ciliary neurotomy twice with satisfactory results: once on account of ciliary pain in an eye blind and with atrophied cornea, once for severe cyclitis in an eye lost years before by injury.

Schweigger[3] also is evidently in favor of the new operation, though it does not appear how extensive his experience with it has been. He prefers to divide the internal rectus and reach the nerves from the nasal side of the eye, keeping carefully within Tenon's capsule. If the globe be atrophic, section of the optic nerve in this way presents no difficulty; if not atrophic, it may be advisable to seek and stretch the nerve with a strabismus hook, to enable its easier division. After section of the opticus the posterior pole of the eye may be readily rotated into view and complete division of the ciliary nerves effected. Schweig-

[1] Berliner med. Wochenschrift, 1878, page 292.

[2] Centralblatt für practische Augenheilkunde, Juni, 1878, page 133.

[3] Ueber sympathische Augenleiden. Berliner klin. Wochensch., 1878, No. 20.

ger has seen no considerable hæmorrhage follow this method, provided he had succeeded in keeping within the capsule, and healing had always been rapid and favorable. Both Hirschberg and Schweigger found curved scissors all that was necessary for cutting the nerves.

The treatment is as yet too recent and the number of cases in which it has been tried too limited to allow a positive estimate as to the extent to which it may profitably be employed. There are two important points especially with regard to which further information is to be desired. Aside from intraocular tumors the avoidance of sympathetic inflammation is the most weighty indication for the performance of enucleation. Reunion of the ciliary nerves after their division behind the eye would bring with it renewal of the opportunity for sympathetic inflammation, and although this does not, under the conditions which exist, seem probable, the opposite cannot as yet be assumed with certainty. Nor in cases where the cornea is present can it now be told how great is the subsequent danger to that tissue rendered insensible by the operation. In two of Schoeler's cases ulceration of the cornea did occur within a short time after the operation, but healed readily under appropriate treatment. At the worst such ulceration would be unattended with pain.

Amblyopia from Tobacco and Alcohol. — Horner[1] has found this disease very frequent in Zurich, and the symptoms very characteristic and constant. In twenty-eight months he observed sixty-eight cases, 0.7 per cent. of all eye diseases. All were men; most were between forty and fifty years of age, few between twenty and thirty. Usually these patients see better by twilight or in shadow than in bright light. The disturbance of vision, which may even reach such a degree as to admit only of counting fingers at a few feet, generally appears rapidly,[2] and is of nearly equal amount in both eyes; indeed, a marked difference in the vision of the two eyes, when no other affection (cataract, macula corneæ, etc.) can be found to explain it, gives ground for suspicion that the disease is not a pure intoxication amblyopia, and alters the prognosis. The field of vision is not narrowed, but the main symptom of the disease consists in an inability to distinguish red and green in a small district around the point of fixation, where blue and yellow, however, are easily recognized. This symptom was present in forty-seven out of fifty-five patients in whom it was sought. Ophthalmoscopically, a constant change is observed in the optic disc: its outlines are well defined, but its whole surface is duller, less transparent, than normal; its nasal third is of a dirty red; its temporal two thirds incline more to a grayish-white color. This is a dull porcelain-white, differing decidedly from the chalky-white of atrophy following neuritis, the yellow-white with choroiditis, or the steel-gray seen in locomotor ataxy.

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[1] Correspondenzblatt für Schweizer Aerzte, 1878, 13. Centralbl. für pract. Augenheilkunde, August, 1878.

[2] As regards this point all observers do not agree with Horner. Förster (Graefe-Saemisch Handbuch, vii. page 204) says the beginning of the failure in vision comes on very slowly, though it is generally a later, more rapid loss of vision which first leads the patient to seek advice. The experience of the reporter agrees with that of Förster.

Examination into the history of these cases always reveals the typical symptoms of chronic gastric catarrh, and after this has existed for some time its more marked manifestations always coincide with the occurrence of failure of vision. Horner insists that it is only after long continuance of gastric catarrh that vision is affected, however great the abuse of alcohol or tobacco has been.

None of the theories proposed to explain these cases is quite satisfactory. That which supposes a partial neuritis implicating only those fibres going to the macula is hardly tenable, since good sleep for a single night may bring about rapid improvement in vision, while sight may become worse and the color scotoma enlarged under the influence of temporary fatigue. Again, the supposition that all depends upon anæmia alone is insufficient, though more is to be said in favor of this, for the lack of nutrition which accompanies the disturbance of the stomach is the exciting cause of the disease. There is no direct poisonous action of nicotine or alcohol on the retina or optic nerve. It appears most plausible to regard the scotoma as what may be called a fatigue scotoma, dependent on lack of nutrition and failure of general strength. Unfortunately there is no evidence as to the pathological anatomy.

The prognosis is good in uncomplicated intoxication amblyopia, though the failure of sight be very great, if only the field of vision be not contracted. Sexual abuses or much depression of strength from overexertion are unfavorable elements. Abstinence, morphia at night if necessary to procure sleep, and remedies directed to the cure of the catarrhal affection of the stomach are all that is required in the way of treatment. Karlsbad salts dissolved in warm water and taken in the morning fasting are usually efficacious.

Extraction of Iron from the Eye by the Magnet. — An interesting case is reported by Hardy.[1] Forty-eight hours after the injury a small, narrow strip of steel was seen resting on the anterior surface of the lens, so situated as to be covered by the iris unless the pupil was dilated. Only a small part of the lens behind the bit of metal was opaque. Twenty-four hours later the effect of a powerful electro bar-magnet outside the eye was tried. When the pole of this magnet had been approached to a distance of four inches from the cornea the chip was seen suddenly to spring away from the lens to the posterior surface of the cornea. On removal of the magnet the metal fell to the bottom of the anterior chamber, and was then extracted through an incision made as for iridectomy. The lens became afterward opaque throughout, and was then gradually absorbed.

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[1] Medical Times and Gazette, April 13, 1878, page 401.

M'Keown[1] in two cases was also successful. A man was wounded in the eye by a small piece of metal. Three days later the iris was found attached to the lens at the outer edge of the pupil, and there a metallic body was adherent. An attempt to seize the body with forceps failed, but on the introduction of a pointed permanent magnet the iron was instantly attracted and withdrawn. The patient was under observation for a month, and the limited opacity of the lens which had at first been present at the part where the foreign body rested did not increase.

In the second case the value of the magnet was still more strikingly shown. A chip of steel from a hammer had struck the right eye. Within an hour after the injury there was found a wound a little more than a line long at the sclero-corneal junction. The wound was quite clean, and no foreign body visible ; but that it had penetrated was evidenced by the evacuation of the aqueous and a slight displacement of the iris. The media were clear, and the ophthalmoscope did not bring the body into view. The point of the magnet was placed in the wound, and a click at once proved the presence of metal within the sclerotic. By a little manipulation of the magnet the end of a piece of steel a line and a half long was brought into position to be caught by forceps, and drawn out. Recovery was complete. Here the foreign body would have probably been undiscovered but for the magnet, and have afterward caused destructive inflammation of the eye ; even if detected, removal by other method would have necessitated the enlarging of the original wound in a region specially apt to react unfavorably.

PROCEEDINGS OF THE PROVIDENCE MEDICAL ASSOCIATION.

G. W. PORTER, M. D., SECRETARY PRO TEM.

OCTOBER 7, 1878. Dr. R. F. Noyes read a paper on The Cæcum and Appendix Vermiformis, of which the following is an abstract: —

The size of the cæcum; its position in the abdominal cavity ; the arrangement of the peritonæum upon its anterior and lateral surfaces only ; the collection of cellular tissue upon its posterior surface ; the attachment of a rudimentary appendix ; the connection with the small ileum on the one hand, and with the ascending colon, yet smaller than itself, on the other, tend to render it of peculiar interest. Again, the absence of the villi, the corrugated condition of the mucous membrane produced by the peculiar and comparatively tense arrangement of longitudinal muscular fibres, and the position of the ascending colon indicate at once the performance of functions distinct from those going on in the ileum above, and imply that its contents must pass slowly through this portion of the large intestine.

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[1] Lancet, August 24, 1878, page 253.

The mechanical, chemical, and catalytic action of digestion are not sufficient to reduce to a fluid and an absorbable condition all substances which may be introduced into the alimentary canal as food or with the food. Seeds of fruits pass directly through unchanged, and under proper conditions germinate. The epithelial layer of various cereals and the tough and elastic portion of animal tissues almost always pass undigested. The activity of the villi and lacteals is so great that the contents of the small intestine suffer at once great depletion, and eventually nothing but a brownish, gruelly material remains, which, together with indigestible substances, is forced through the ileo-cæcal valve into the cavity of the cæcum. The exact function of this viscus is not distinctly understood. Its secretion and that of the appendix vermiformis appears to be alkaline in its reaction, and has for its office the conversion of starch into sugar, the semi-liquefaction of fæces, and the lubrication of the large intestine, The lactic and butyric acids so generally present are accounted for by the decomposition of the saccharine materials. Within a short time the contents of the cæcum assume a fæcal odor. This is not due to a decomposition of its contents, or to any putrefactive change, but according to Tiedmann and Gmelin is dependent upon the secretion of a volatile oleaginous material. Here, too, sulphureted hydrogen is generated.

The derangements of the cæcum and its appendix are naturally divisible into functional disturbances, inflammation of its walls (typhlitis), perforating ulcer of the cæcum, perforation of the cæcum and its appendix from foreign bodies, and perityphlitis.

The cæcum at times becomes enormously distended. This distention may depend upon a torpid and distended colon, upon a paucity of the cæcal alkaline secretion, or upon a weakened and debilitated condition of the cæcum itself. The difficulties dependent upon this distention may be enhanced by the presence of calculi, entozoa, and foreign bodies.

Ordinarily from the impaction of fæces and the accumulation of gas pain in the right iliac fossa, more or less paroxysmal, is complained of. Vomiting is frequently observed. Pain and numbness of the thigh, retraction of the testicle, and frequent micturition are sometimes present, depending upon irritation of the last dorsal and genito-crural nerves.

Typhlitis. — The mucous membrane of the intestinal canal is more susceptible to irritation and inflammation during the period of childhood and adolescence than later. Typhlitis is known by pain and marked tenderness upon pressure in the right iliac fossa; tympanites, at first local, afterwards general; tumor in the right iliac region frequently due to an effusion behind the cæcum, and often observed by localized enlargement of the abdominal parietes. In typhlitis, too, we have vomiting, sometimes stercoraceous, depending upon the degree of obstruction. The bowels are constipated. At first the pulse may not be much accelerated, but soon it becomes more rapid, varying from 100 to 120. The *facies* becomes anxious, and the patient lies upon the right side with thighs flexed upon the abdomen.

A case of typhlitis not long since came under my observation. My patient first experienced severe non-localized pain, paroxysmal in its nature, in the abdomen. Shortly, in the right iliac fossa, there was observed a tumor, tympanitic upon percussion. Soon vomiting became a prominent symptom. The bowels were confined. The pulse rapidly increased in frequency. In the morning I found it 80, in the evening 130. The countenance assumed an anxious expression. The thighs were flexed upon the abdomen. By the free administration of morphia hypodermically, by the assiduous use of hot fomentations and turpentine stupes to the abdomen, by warm enemata and the use of the rectal tube, together with champagne as a stimulant and calomel as a laxative, I was enabled to carry my patient through.

Perforating Ulcer of the Cæcum. — Perforation of this viscus may occur in dysentery, phthisis, and carcinoma. Professor Roberts Bartholow[1] refers at some length to an idiopathic perforating ulcer of the cæcum. In the cases observed by Professor Bartholow the site of the ulcer was in the great majority of cases upon the posterior portion of the cæcum. The ulcer was cleanly cut, and most of the cases were preceded by a diarrhœa for some time prior to the perforation.

Ulceration and Perforation of the Cæcum from Foreign Bodies. — A foreign body may be arrested in the cæcum, and produce ulceration and perforation of this viscus. The gravity of the perforation will very much depend upon its site. If the foreign body lodges in the anterior or lateral portions of the cæcum, adhesions not having formed, and perforation occurs, collapse or general peritonitis rapidly terminates the case.

Several years ago I was called to see Mr. X., aged thirty-one, a grocer, previously healthy. I found him with severe pain in the right iliac fossa. There was no tympanites, no tenderness upon pressure. The pulse was 84, the temperature normal. Thirty-six hours from the invasion of the attack the pulse was 130, tympanites marked, and the patient suffering from general peritonitis. Notwithstanding the administration of opium, stimulants, and counter-irritation, he sank, and died upon the fifth day from the invasion of the attack. Autopsy revealed evidences of general peritonitis. There was a perforation of the cæcum at its junction with the appendix. An intestinal concretion about as large as a small marble was found in the cavity of the appendix.

If, as more frequently happens, the posterior portion of the cæcum is the site of the perforation, perityphlitis results. This affection is usually dependent upon typhlitis, or is due to perforation of the cæcum or its appendix. Perityphlitis not dependent upon perforation may terminate in resolution, or it may go on to the formation of iliac abscess. Perityphlitis due to perforation always culminates in suppuration. In this event grave constitutional symptoms are soon present. Chills and rigors, followed by profuse sweating, tumor, pain and tenderness upon pressure at the seat of disease, exhausting diarrhœa, and furred tongue announce the local production of pus. Suppuration having occurred the pus may pursue one of a variety of courses. It may pass into the intestine perhaps through the identical opening which caused the original inflammation. It may find its way into the peritoneal cavity, producing fatal peritonitis. It may point and open in the right iliac fossa, or the pus may descend and the abscess point under Poupart's ligament. Finally, it may extend upwards, and point near the crest of the ileum.

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[1] American Journal of the Medical Sciences, October, 1866.

In making the diagnosis of iliac abscess it is well to bear in mind the position of the pus in psoas abscess and in Pott's disease of the spine. The practitioner should remember that the abdominal parietes in the right iliac region may be the seat of phlegmonous inflammation; he should think of the symptoms of an inflamed right ovary; he should recall the characteristic features of pelvic cellulitis; and he should remember that renal disease may produce pain in the course of the genito-crural nerve. Iliac abscesses upon pointing, as a rule, do not present that red appearance which is seen in the pointing of abscesses generally.

Ulceration and Perforation of the Appendix Vermiformis. — Perforation may occur without the presence of foreign bodies. Extraneous bodies, however, are frequently the cause of ulceration and perforation. These upon gaining access to the cavity of the appendix may remain a long time without producing any disturbance, when suddenly they may inaugurate an ulcerative process, which, culminating in perforation, may cause a localized and soon a general peritonitis; or nature, anticipating the perforation, may be kind enough to produce adhesions of the different layers of the peritonæum, thus forming the walls of an iliac abscess. In this event the perforation culminates in a localized collection of pus. It is highly probable that the alkaline viscid secretion of the appendix may sheathe and protect its mucous membrane for a long time from the irritation of the foreign body, when at last from some derangement of its glands the secretion becomes less protective in its nature, and the appendix at once feels the presence of the foreign element.

Two fatal cases of perforation of the appendix have fallen under the observation of Dr. Hill, of Providence. Upon one of these subjects I made an autopsy. In the other case Dr. Hersey, in my presence, made the post mortem. I am indebted to Dr. Hill for the following history: Both patients were males; the age of one was twenty-one, that of the other twenty-two. In both there was pain in the abdomen. In one it was localized in the right iliac region from the beginning. In one there was a tumefaction, in the other none. In both the pulse was accelerated, varying from 110 to 120. In both the bowels were confined, and there was vomiting. In one the vomitus was stercoraceous. In both there was general tympanites. In one there was a decided chill, in the other chilly sensations. In one there was delirium, in the other none. Death resulted in one case in five days, in the other in seven days. Autopsy revealed in both general peritonitis, pus in the peritoneal cavity, with elongation and perforation of the appendix. In both there was an intestinal concretion in the cavity of the appendix. The appendix as a result of inflammation may attach itself to the parietal layer of the peritonæum, to the bladder, rectum, and other of the abdominal viscera. The pus in iliac abscess is considered by Sands and Kelsey, and was considered by the late Dr. Krackowitzer, to lie outside of the peritoneal cavity.

Prognosis. — Perforation of the appendix is far more fatal than the same affection of the cæcum. Professor Bartholow[2] said that "he did not know

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[1] American Journal Medical Sciences, October, 1866.

of a single well-authenticated case of recovery following perforation of the appendix."

Since that time Dr. Wm. Pepper,[1] Professor Weinlechner,[2] of Vienna, and Dr. H. B. Sands have each reported a case of recovery from perforation of the appendix vermiformis. Of forty-seven cases of disease of the appendix vermiformis tabulated by Dr. Lewis, forty-six died.

Treatment. — The functional disturbances should be treated with laxatives. Drastic cathartics should not be employed. Copious warm oleaginous and solvent enemata are used with much advantage. Hot fomentations and turpentine stupes are highly useful. Typhlitis and perityphlitis are best treated with opium, laxatives, leeches to remove the congestion, enemata, and hot fomentations. Turpentine stupes are important, and such other antiphlogistic treatment as may suggest itself to the practitioner. Iliac abscess is best treated by incision, after the method inaugurated by Dr. Hancock in 1848, and revived by Dr. Parker. An incision just above and parallel to Poupart's ligament, extending through the abdominal parietes to the transversalis fascia, relieves at all events the tension, and renders the external pointing of the abscess the more probable. A hypodermic syringe determines the diagnosis. Just here the skill of the surgeon is brought into requisition. If he has reason to believe that adhesions have formed he will succeed best by extending his incision, and allowing the pus to escape. Dr. Parker recommends that the incision should not be made before the fifth day nor after the twelfth.

I have read the account of fifteen cases, and have taken from Dr. Gouley's paper[3] fifteen more. Of these thirty cases treated by incision there have been twenty-seven recoveries and three deaths.

An interesting discussion of Dr. Noyes's paper, in which Drs. O'Leary, Mitchell, Hersey, Radcke, and Brown took part, is omitted for want of space.

JONES'S AURAL SURGERY.[4]

THIS work is a republication of the author's papers entitled Practical Remarks on Aural Affections, which appeared in the *Medical Press and Circular.* It is intended, as the preface states, to give the busy practitioner and student a concise epitome of modern aural diagnosis and therapeutics. In a work with this professed object we should have expected that attention would have been directed to the pathological conditions found in the ear, and to the application of the general principles of surgery and medicine for the relief of these conditions; we should look for thoroughness in touching upon all the important points relating to the ætiology, diagnosis, differential diagnosis, and treatment of the various diseases. With all this a systematic arrangement is necessary to facilitate easy reference. In all of these particulars the work seems wanting. There is no attempt to apply general principles or to give the "indications" for treatment; not the slightest description of the pathology, and scarcely a word on the ætiology of the diseases; but little description of the appearances seen on inspection is given, and nothing at all on differential diagnosis.

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[1] American Journal Medical Sciences, July, 1867.

[2] Medical Record, vol. x., page 223.

[3] Transactions New York Medical Society, 1875.

[4] *A Practical Treatise on Aural Surgery.* By H. MACNAUGHTON JONES, M. D. Philadelphia: Lindsay and Blakiston. 1878. 8vo, pp. 174.

The book consists of remarks on the methods of examining the ear, and the treatment of the various diseases of that organ, chiefly based on the author's own experience. No claim to originality is laid. In the mere matter of the book there is but little to condemn. Its chief fault is its very great incompleteness and lack of systematic arrangement.

THE REGISTRATION OF DISEASES IN CENSUS RETURNS.

It has been estimated that the present epidemic of yellow fever in our Southern States will have entailed a loss during the few months of its prevalence of at least two hundred million dollars, but no price can be set on the valuable lives which might have been saved, or upon the suffering which might have been avoided, by the application of perfectly well-known laws of hygiene. People are slow to learn, however, and if this terrible visitation only teaches the lesson which England learned thirty years ago from the outbreaks of cholera in that country, we shall have at once a national board of health, the inauguration of a vigorous war against filth and disease, and a registration of vital statistics which may at last bear comparison with that of other civilized lands. Bitter as the experience has been, and high as the cost of this great advance in sanitary administration is sure to prove, they cannot be said to be too dearly bought if prompt measures are taken to supply such knowledge to our local authorities as shall prevent the recurrence of similar calamities, and if the reproach of the abounding filth of many of our cities is swept away. We conceive this to be a matter of so great importance that we consider it the duty of every state board of health, every local board of health, and every medical society in the country to urge their senators and representatives, as a solemn duty, to leave no stone unturned in their efforts to secure a general board of health, which shall be free from political influences, and which will reflect credit on the whole country.[1] In the departments of the army, navy, and Marine Hospital service we have men whose labors in the promotion of sanitary science, in the application of practical hygiene to saving life and preventing disease, have won them enviable reputations in this country and in Europe. There are trained men, too, in civil life thoroughly competent for so important a trust; so that there is no longer any excuse for our lagging far behind England, France, Germany, and even Persia.

The epidemic has already borne excellent fruit in the very valuable weekly bulletins of deaths and disease, prepared under Dr. Woodworth's direction, the usefulness of which we hope to see expanded and extended as better facilities are given by Congress for collecting and collating exact information from all parts of the States.

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[1] In this connection we call the attention of our readers to the text of a memorial to Congress printed on another page.

Dr. Billings, too, has recently proposed a schedule of questions to be asked in preparation of the statistical data for the next census, the importance of which cannot be too strongly stated. Let us hope that pressure enough will be brought to bear, from every physician in the land if necessary, to have this provision adopted. Ten years ago there was a proposition to insert in the census blanks the question: "Is he or she of the usual health of his or her years? If not, what is the disease or disability?" — to be asked of every man, woman, and child; but it failed, although urged by Dr. Edward Jarvis, the first medical statistician in our country, and although advocated with the eloquence of one of our most distinguished citizens, the late Charles Sumner.

The questions suggested by Dr. Billings are as follows: First, Number of days during past year in which the person was unable to follow his or her usual occupation on account of Diseases (D) or Injuries (I). (Attendance at school considered as an occupation.) Second, Is the person sick on the 30th day of June? If so, name the disease or injury. Third, Is the case being treated in Hospital (H), by a physician from a Dispensary or Public Charity (C), by a private Physician (P) or without a Physician (N). Fourth, Has the person during the past year had any of the following diseases, namely, Small-Pox or Varioloid (S P or V); Scarlet Fever (Sc); Measles (Me); Diphtheria (D); Typhoid Fever (T F); Malarial Fever (M F) (includes Ague, Bilious Fever, and Remittent Fever); Yellow Fever (Y F); Acute Lung Diseases (L D) (includes Lung Fever, Pneumonia, and Pleurisy); Acute Rheumatism (A R); Cerebro-Spinal Meningitis (C S M). Fifth, What has been the cost to the person (or head of the family on his account) during the past year from sickness in (*a*) loss of wages or salary; (*b*) cost of medical attendance, medicines, and nursing.

These queries explain themselves, and can be answered by most fairly intelligent persons; from the ignorant classes, of course, a considerable amount of inexact and incorrect material will be collected. But that is unavoidable under any circumstances, and even approximate results will be of such vast interest to the sanitarian, the economist, the statistician, and the physician that we venture to predict that they would be followed by a general stimulation of our state and municipal authorities, such as would give to many thousand people increased health and additional security to life from all filth-begotten diseases. The questions, on the whole, seem to us the best that can be devised; they do not ask too much nor too little; and the character of the replies themselves will afford a fair indication to what extent they can be considered trustworthy. The published census reports of Ireland give information only as to the amount of sickness on the day when the census was taken. Dr. Billings, we are glad to see, attempts much more, — more, indeed, than we are accustomed to find in those admirable yearly reports from Holland, where the registration of contagious and infectious diseases has been required by law since 1872.

MEDICAL NOTES.

— In the Pacific *Medical and Surgical Journal* for October is a communication from Dr. W. P. Gibbons, chairman of the section of materia medica and therapeutics in the state society, which is devoted to the welfare of a certain Dr. (?) I. H. Bundy, who is making himself notorious by putting upon the market a series of "California's new remedies," namely, yerba santa, cascara sagrado, yerba reuma, grindelia robusta, etc. Dr. Gibbons tells a plain, unvarnished tale about these plants, and finishes the said Bundy as follows: "It is not agreeable to deal in personalities. But where quackery and ignorance make such bold pretensions as are contained in this paper, under the guise of an M. D.; when the *Philadelphia Chemist and Druggist* reprints such worthless bombast under the head of California's New Remedies; when this is recopied by a California medical journal, edited by two 'professors in the medical department of the State University,' and copied over again by one of the leading journals of San Francisco, it is due to the medical profession in California and elsewhere that the fact should be known that 'I. H. Bundy, M. D.,' is not a member of the regular profession, and is apparently getting ready to flood the market with a new series of quack preparations under the name of California's new remedies."

— In the will of the late Dr. Washington L. Atlee, admitted to probate last week, appear the following clauses of a public character: —

"I hereby direct that none of my accounts of charges remaining unsettled at the time of my death against the following classes, to wit, clergymen and their families, physicians and their families, indigent widows, indigent single women, and female servants, shall be collected, and the same shall be considered satisfied and canceled.

"I appoint Thomas M. Drysdale, M. D. (Dr. Atlee's son-in-law), my literary executor, to take charge of my publications and manuscripts, including my manuscript books and cases, clinical notes and professional correspondence, and to utilize them as much as possible for the benefit of science, art, and humanity."

— Dr. Edmund Andrews, professor of surgery in the Chicago Medical College, has devised an ingenious "searcher" for detecting minute fragments of stone in the bladder. It is simply a combination of Toynbee's otoscope, and an ordinary short-curved catheter, which, however, is not fenestrated. Probably any form of catheter or sound would answer as well. If this combination be as sensitive as is asserted by Dr. Andrews, it will be nearly as serviceable as the microphone, be more convenient, and far less expensive. See the *Medical and Surgical Reporter* for October 12th.

— A case of absence of the inter-auricular septum, without cyanosis, discovered post mortem in a man aged forty, is reported in the London *Lancet* of August 24th by Richard Caton, M. D.

— In a Kentucky confinement case, child and placenta being expelled together, the latter was found to be a battledore, the margin opposite the insertion of the cord being attached to the anterior fontanelle of the child, which was hydrocephalic.

— A new venture in medical journalism is announced in London, to be called the *International Medico-Chirurgical Gazette of London.* The journal in some way will coöperate with the *Allegemeine medizinische Zeitung* of Vienna. Communications will be published in the two journals simultaneously. The success of the publication seems doubtful. In our own country there recently has been an eruption of medical journals which impress one as being of a "*self-limiting*" character.

— Evidences are accumulating in favor of nitrite of amyl as a prompt and valuable cardiac stimulant in cases where a quick action is needed. Unfortunately, however, too many physicians are afraid of this useful preparation, notwithstanding it has never done any harm, even when inhaled in half-drachm and drachm doses.

— The latest telegram from Surgeon-General Sir A. D. Home at the island of Cyprus states that out of a force of two thousand six hundred and twenty-two royal engineers, four hundred were in hospital, and between twenty and thirty have died since landing. The surgeon-general has twice suffered attacks, and nearly all the medical staff have been invalided for a time. The *Medical Times and Gazette* calls the island "Beaconsfield's white elephant."

— Mr. John Hilton, of London, is dead. He has occupied the presidential chair of the Royal College of Surgeons, also of the Pathological and New Sydenham societies. He was surgeon-extraordinary to the queen, consulting surgeon to Guy's Hospital, and fellow of the Royal Society. He was the author of several works and contributions to medical literature. His age was seventy-four years.

— Dr. Kelp has successfully treated nocturnal enuresis by hypodermic injections of strychnia.

— The *Medical and Surgical Reporter* says that a Turkish physician, his student, and several other members of a Turkish colony have settled in East Tennessee.

— In an editorial the *Medical Times and Gazette* says, "It is unfortunately true that the wards of our hospitals are too much neglected by students, but we have always thought that for this neglect they are not alone to blame. So long as attendance upon long courses of lectures is insisted upon by examining boards, so long will the student's time and attention be diverted from the wards to the lecture-room, from subjects which he can only well learn at hospitals to subjects which he can learn as well at home." The change here indicated is vitally needed in the majority of our medical schools.

THE JOHNS HOPKINS UNIVERSITY.

Mr. Editor, — The youngest university of the day is springing up with a rapidity characteristic of the age we live in, and the substantial yet tasteful architecture of the buildings gives proof that durability with usefulness of edifice is now attained, with great saving of time and without sacrificing a very important feature, — attractiveness.

In giving an account of the progress made, a short retrospect of the Johns

Hopkins endowment will serve to refresh the memory and bring us from the very beginning down to the present. Seven millions of dollars were bequeathed by Johns Hopkins to found a university and hospital. Accordingly, in 1875, at the Academy of Music in Baltimore, the university was formally and legally founded in the presence of a vast concourse of distinguished *literati* from all parts of America, with a sprinkling of transatlantic *confrères.* The work of construction as regards the university proper commenced, and in the fall of the same year its doors were thrown open to students of every sect and religion from all parts of the world. The scientific and medical departments followed in the wake of the academic, and now quite an imposing array of buildings presents itself to view. The question of plans, more especially, of course, for the hospital, had been much mooted; lengthy discussions and protracted correspondence had transpired, which finally took shape in one large volume on Hospital Construction, sufficiently well known. The London *Lancet* of February 10, 1877, pays a high tribute to Dr. Billings, chief of the Hygienic Department of the United States army, and gives such a concise and excellent review of the volume in question, culling the leading facts, that we feel warranted in reproducing a few of them here. The opinion of Dr. Billings had been sought for by the committee, desirous of being guided in their work "by a man whose authority in such matters is not only great, but whose opinion must necessarily be totally unbiased, since he in no way will benefit by any of the Hopkins bequests."

The new hospital is designed to receive four hundred patients; a site for the buildings — which, it is stated, will number twenty-seven — has been selected on the east side of the city, on the slope of a hill having a gentle declivity, and overlooking Canton and the water on one side and Baltimore on the other, being a part of the old estate of Clifton, which belonged to the testator. The average elevation is one hundred and twelve feet above high-water mark; the soil is of stiff clay with beds of sand beneath, affording excellent facilities for surface drainage. The general aspect of the site is toward the south, the size being about fourteen acres. Some protection will be obtained to the northeast by the crown of the hill belonging to the grounds, in the centre of which is a garden one hundred and seventy by five hundred feet. The buildings will consist of sixteen pavilions containing the wards, separated from each other by a distance of sixty feet, and raised by a basement story eighteen feet above the ground, being united by a corridor on much the same plan as those in the Leipzig Hospital, which is considered the finest in Europe. The connecting corridor will cover six hundred yards. The kitchen is three hundred and ninety yards from the furthest ward, and the dispensary is nearly as far. The sick wards are on the south side of the corridor and face south, while the service buildings — containing closets, baths, separation wards, etc. — are on the north side. Two wards are devoted to pay patients, and two are set aside for cases needing isolation, — for infectious diseases, — placed at the extreme ends of the corridors, and furthest from the kitchen, dispensary, laundry, etc.

The administration department will form the main front of the hospital, and will be the ornamental part of the edifice. Here will be accommodations for the superintendent, resident physicians, and resident students, with library, dining-room, house dispensary, and apothecaries' quarters; the dispensary will be fourteen by eighteen feet, — quite insignificant in size. A new feature will be a school and home for nurses, with lodging for sixty nurses and probationers. The laundry, kitchen, servants' dining-rooms, store-rooms, boiler and engine houses, are all placed in one building situated at the northwest angle of the hospital. It is proposed to heat the hospital by means of steam-pipes from the furnaces and boilers. The main chimney will be one hundred and seventy feet high, and will also be used as an aspirating shaft for the whole hospital, each ward being placed in communication with it by means of a three foot duct.

The out-patient department and the operating theatre form a separate building, which is very complete, and comprises waiting, etherizing, consultation, and recovering rooms, with the ordinary arena and gallery. The autopsy building is also very complete, having, besides the regular arrangements, special rooms for microscopy and photography. The hospital will be fitted throughout with means of electric communication, the centre of which will be the superintendent's room, where such matters as the temperature of wards, the rate of influx of air, etc., will be recorded.

Finally, it is proposed to have a hospital literature, — a printed gazette containing records of cases, notices of operations, as well as medical and surgical hospital news, both general and special. The sheet will be issued, we believe, weekly.

The foregoing is more or less prospective, as four years at least must elapse before completion, and before the work is under full headway. At present seven or eight buildings on the hospital grounds are in process of construction, and some are ready to be roofed over, but as far as the organization of the hospital staff and scientific work are concerned they are not likely to begin for some time yet.

It is different with the university proper and the scientific department. These buildings are completed, and in full operation; they are situated on one of the great streets of the city and near its centre. They are of brick, built in the best manner, and surrounded in front and at the sides by pretty flower gardens. In the main building, on the lower floor, is the administration department, — offices, registrar's bureau, etc., — and above are the recitation rooms and others for the use of the professors. Immediately adjoining this, and connected with it in such a manner that those passing from one to the other are under cover, is another building, the lower part of which is devoted to a large auditorium called Hopkins Hall, containing a handsomely inlaid memorial tablet, and hung with sepia drawings of ancient Egyptian monuments. This is the general lecture hall, — devoted at times to free scientific and literary lectures. On the second floor is the library, containing already about seven thousand volumes; this library — where all the leading literary and scientific journals, magazines, periodicals, etc., published in Europe and America, are taken — is for the use not only of the university, but of the whole medical profession, gratis. Mounting to the third floor we enter the biological laboratory. The laboratory is well furnished. The professor, Mr. Martin, is present, or, in his absence, the assistant, so that there is usually some one there to help students all the time, — from nine A. M. to five P. M. Each student is provided with a microscope, reagents, and material for dissection. The physiological apparatus for study and research is ample. Advanced students and persons engaged in biological research are provided with rooms apart from the general laboratory, where they can carry on their work without interruption. Just beyond, and distant only a few yards, is the chemical building, of two stories. The basement is the receptacle for wares, such as boxes. retorts, jars, test-glasses, etc. On the first floor is the fine laboratory; here, again, Leipzig has been taken for a model, and this laboratory built after Professor Kolbe's. It has accommodation for from twenty to twenty-five students at one time, each being provided with his drawer, table, and full set of chemicals. On the same floor are the combustion room, the room for generation of sulphureted hydrogen, and a room for the Fellows to work in. Upstairs is the lecture room and a small museum. A good chemical library is kept in a special room in the laboratory building, easily accessible to the students. It contains full sets of the more important chemical journals, most of the standard works on chemistry, and an array of current chemical periodicals, regularly taken, will be found there. The Scientific Association of the Johns Hopkins University meets monthly, when an opportunity is afforded of presenting reports on recent chemical progress, and on scientific work generally.

No regular plan of medical education has been formally announced, except the preliminary course, already noticed in the JOURNAL.

The books are now open; the courses commence this week, and the limited number that can take part in practical biological research is being rapidly filled up, — four or five having already enrolled themselves. It is considered a mistake to place the biological course as an elementary one instead of as a graduate or post-graduate course.

In the construction of the hospital alluded to in the first part of this article, it is thought that some things might have been improved upon: for instance, as the wards are elevated above the corridor by a flight of steps ten feet high, great labor and inconvenience will be experienced in the distribution of food, drugs, etc.; again, there are no cross-corridors, and the whole circuit of the building must be made in order to get from one ward to the other, which will be fatiguing to physicians. The ten feet under the wards is, then, so much waste space, and as the isolated wards for infectious diseases are at the extreme ends the result is that all traffic to and from them must take place through the whole of the connecting corridor, the air in which, in spite of the different levels, must find its way into the wards above. The contiguity of the dispensary to the residents' dining-room has also been objected to; this, however, is only unpleasant. For us the worst of all is that in the nurses' home, which the *Lancet* pronounces ill-planned (and not without reason), the water-closets and baths, thirty in number, will none of them have any direct window communication with the open air; they are clustered together round a central shaft, and currents undoubtedly will descend this. Sixty-six nurses and probationers may suffice as a nucleus, but would hardly be enough later.

The new university, notwithstanding the brilliant professors engaged, will find formidable rivals in the older ones, such as Harvard, Yale, and others, for which the public have a decided *penchant.* The standard is not so high as could be wished in consideration of the ability of the professors. Students would be more appreciative of the deep subjects treated and better able to comprehend them after two or three years' study.

Free scholarships are provided for those young men coming from Maryland, Virginia, and North Carolina in need of assistance. As for the general plan of academic instruction, there are seven methods on the printed formula, any one of which may be chosen by the student, — a mixture of scientific and academic instruction in one course of three years.

BALTIMORE, *September* 26, 1878.

SHORT COMMUNICATIONS.

A MEMORIAL PRAYING FOR THE ESTABLISHMENT OF A NATIONAL PUBLIC HEALTH BOARD FOR THE PURPOSE OF IMPROVING PUBLIC HYGIENE.

To the Senate and House of Representatives of the United States in Congress assembled: —

This memorial, presented by the undersigned, practitioners and teachers of medicine in the United States, respectfully showeth: That whereas, with a view to the better protection of the public health, it is highly desirable that statistics of mortality and disease should be collected throughout the United States upon a uniform plan. And whereas, in the approaching general census of the United States an unusually favorable opportunity is offered for obtaining such statistics. And whereas, it is believed that scientific and systematic investigation into the causes and methods of prevention of the so-called epidemic and contagious diseases is much needed, and cannot fail to produce results of value to the whole country. And whereas, there is no uniform standard of the qualifications which should be possessed by health officers in this country, and it is considered highly desirable that such a standard should be established and means be provided whereby the public may receive authoritative information as to who are possessed of these qualifications. And whereas, it is believed that a board of medical men constituted as hereinafter suggested could do much towards supplying the wants above indicated, and that its suggestions and recommendations upon all matters relating to the public health would be of well-recognized value.

Therefore, it is respectfully recommended that the necessary legislation be provided for the organization of such a board, and for defining its duties, in accordance with the following provisions: —

I. That the board shall be constituted of one medical officer from each of the following-named departments, namely: The medical department of the army, the medical department of the navy, and the marine hospital service, and of two physicians from civil life, selected on account of their knowledge in matters pertaining to public health. That the medical officers of the government services for this board shall be detailed by the secretaries of war, of the navy, and of the treasury respectively, and that the three officers so designated shall select and recommend to the president for appointment the other two members of the board.

II. That the board so constituted shall be known as the United States Public Health Board, and that its duties shall be to obtain information upon all matters affecting the public health; to consult with the superintendent of the census with regard to the disease and mortality statistics to be collected and prepared under his direction; to advise the several departments of the government, the executives of the several States, and the commissioners of the District of Columbia, on all questions submitted by them, or whenever in the opinion of the board such advice may tend to the preservation and improvement of the public health. To establish a standard of the qualifications which should be possessed by a municipal health officer, to examine those who may present themselves for examination as to their fitness for such a position, and to furnish suitable formal certificates to those found to be properly qualified.

III. That the detailed officers shall receive their usual payment allowances from their respective departments, and that the two physicians selected from civil life shall each receive compensation at the rate of five thousand dollars per annum from the funds appropriated for the use of this board. That the ordinary sessions of the board shall be in Washington, where it shall have its office, and that at least one member of the board shall be always on duty during the usual office hours.

IV. That the board shall prepare and present to Congress an annual report of its operations, with such recommendations as may seem to it advisable.

V. That when deemed specially desirable by the board it may send one or more of its members to any point within the United States for the purpose of investigating a disease or other matter specially affecting the public health, and that the actual traveling expenses of the members so sent shall be paid from the funds appropriated for the board.

VI. That to carry out the provisions of this act, for the salaries of the civil physicians, office rent, traveling expenses, stationery, clerk hire, and miscellaneous expenses, the sum of thirty thousand dollars be appropriated, to be disbursed and accounted for by the president of the board in accordance with its directions, and on vouchers and forms to be prescribed by the secretary of the treasury.

AN AUTOPSY REVEALING THE OBLITERATION OF THE TRICUSPID VALVES.

BY J. B. BURROUGHS, M. D., WESTFIELD, MASS.

On the 18th of August last I visited with my preceptor, Dr. H. Gamwell, J. D., Irish, aged twenty-six years, a very muscular, temperate, industrious man, married three weeks. Found him in bed, with a raging headache, which had been coming on for a week; pulse 64; temperature 99° F.; bowels a little constipated; scanty urine; no abdominal pain nor tenderness; tongue clean. The patient talked freely about his business, and said he had been in the habit the past winter of arising at one o'clock, A. M., and sleeping on his sleigh until his horses found their way to the mountains, twelve miles away; he often awoke during these early morning rides chilled through. During the past year he had been to the office several times to see the doctor about the pain in his back and difficulty of respiration. Friends remembered that he had been given to sighing; frequently "took a long breath," and had dyspnœa on going upstairs rapidly.

The following day we found him much the same, — more restless and less inclined to talk, — and diagnosticated kidney disease, with probable uræmia.

On the 24th the pulse was still 64; temperature 99° F.; eyes hazy and dull; the patient lying in a lethargic sleep. The bowels moved only by taking a cathartic. As the prognosis was unfavorable, the friends of the young wife dismissed the attending physician, and called in an "eclectic," who diagnosticated the case as "congestion of the brain and bowels, and congestive typhoid fever." The patient died on August 28th. As there was considerable talk about his dying of typhoid fever, and of a wrong diagnosis, a post-mortem examination was sought and granted, Drs. Gamwell, Waterman, Clark, and a number of friends being present. The eclectic was requested by his friends to be a spectator, but he failed to present himself.

Examination of the thoracic and abdominal cavities showed the liver to be somewhat enlarged; the peritoneal cavity free from serum and inflammatory lesions; the lungs to be extensively adherent to the walls of the thorax, caused by an attack of pneumonitis two years previous. Slight ossification of the pulmonary artery and its branches, and an unusually thin aorta, were next noticed, and the right side of the heart was hypertrophied and dilated, the dilatation being greatest in the auricle. On opening into the left auricle and ventricle nothing abnormal was found. The right side of the heart revealed a most unexpected lesion in the entire obliteration of the tricuspid valves, leaving the right ventricle and right auricle with no septum whatever. The lesion, if not congenital, was evidently a gradual one, for if it had been of recent date there would have been a ragged edge left. On the contrary, there were neither chordæ tendineæ nor columnæ carneæ, the place of their former attachments being as smooth as other parts of the cavity.

The intestines and stomach were found perfectly normal; no congestion of the parts nor ulceration of Peyer's glands. In the liver and kidneys, which were enlarged, fatty globules appeared on the cut surface. Upon a careful examination the urine showed an abundance of albumen and an entire absence of urea. A microscopic examination revealed fat globules and casts.

The opinion of the medical gentlemen present was that the patient died of uræmia; that this was induced by exposure to cold, the dyspnœa being caused by the restricted position of the lungs consequent upon the firm and extended adhesion; that this also aided in causing the congestion of the kidneys, and thus hastened the result.

The abnormal condition of the heart was probably congenital, and had but little to do with the symptoms.

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ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XVII.

Office Surgeon-General U. S. M. H. S., Washington, *November* 2, 1878.

New Orleans, La. — There were 83 new cases of yellow fever and 109 deaths for the week ended yesterday. During the week the Board of Health received information of 288 old cases not previously reported. For the past twenty-four hours there were four new cases and eight deaths. Total cases 13,252, total deaths 3973.

Morgan City, La. — During the past week there were eight deaths from yellow fever. Total cases to date 563, deaths 102.

Baton Rouge, La. — For the week ended yesterday evening there were 75 cases of yellow fever and 16 deaths. Total cases 2415, deaths 160.

Mobile, Ala. — During the week ended yesterday evening there were 60 new cases of yellow fever and 10 deaths. Total cases 224, deaths 59.

Decatur, Ala. — There were 10 cases of yellow fever and two deaths for the week ended November 1st. Total cases 188, deaths, 42.

Bay St. Louis, Miss.— Total cases of yellow fever to yesterday evening 535, deaths 78. Only an occasional case occurring now, and the local health authority considers the epidemic at an end.

Port Gibson, Miss. — There were about ten deaths in the country near Port Gibson during the past week; none in Port Gibson, where the epidemic is considered at an end.

Pass Christian, Miss. — During the week ended yesterday evening there were 19 cases of yellow fever and no deaths. Two deaths from yellow fever occurred in the week ended October 25th, which were not reported in that week. Total cases to date 189, deaths 20.

Grand Junction, Tenn. — To October 26th there were 174 cases of yellow fever and 74 deaths.

Milan, Tenn. — For the two weeks ended yesterday evening there were 12 cases of yellow fever and six deaths. Total cases 15, deaths 9.

Memphis, Tenn. — During the week ended October 31st there were 22 deaths from yellow fever. Total deaths 2964. The Board of Health announced officially, October 28th, that absentees could return with safety.

Mason, Tenn. —The first case of yellow fever — a refugee — occurred August 29th, the first case among inhabitants October 4th, since which time to yesterday evening there have been 60 cases and 24 deaths.

Chattanooga, Tenn. — During the week ended yesterday evening there were 28 new cases of yellow fever and 12 deaths. Total cases 433, deaths 127.

Meridian, Miss. — Over 400 cases of yellow fever are reported to have occurred to date. Total deaths, 80.

Gallipolis, Ohio. — During the week ended October 30th one new case of yellow fever occurred and two deaths.

No cases of yellow fever or deaths in Louisville and Key West during the past week.

Havana, Cuba. — Twenty-three deaths from yellow fever and nine from small-pox for the week ended October 26th.

Rio de Janeiro. — One death from yellow fever and 11 deaths from "pernicious fever" for the week ended September 28th. In the same week there were 1495 deaths from all causes, of which 139 were from small-pox. Since May 1, 1878, there have been 1233 deaths from small-pox.

Europe. — In 149 cities and towns of the German Empire, having an aggregate population of 7,429,793, there were 5755 births and 3512 deaths for the week ended October 5th, being an annual mortality rate of 24.6 per 1000 of the population. The lowest death rate, 11.2, was in Kiel; the highest, 42.2, was in Augsburg. The deaths include 108 from scarlet fever and 147 from diphtheria and croup. None from small-pox.

John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Oct. 26, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	448	21.31	23.42	28.71
Philadelphia.	876,118	256	15.19	18.80	21.54
Brooklyn.	549,438	207	19.59	21.51	25.50
Chicago.	460,000	143	16.17	17.83	22.39
Boston.	375,476	144	19.94	20.10	24.34
Providence.	100,000	36	18.72	18.81	19.20
Lowell.	55,798	12	11.18	19.09	22.50
Worcester.	54,937	13	12.31	20.06	22.30
Cambridge.	53,547	18	17.47	18.69	20.83
Fall River.	53,207	19	18.57	21.35	24.96
Lynn.	35,528	13	19.03	20.42	19.67
Springfield.	33,981	15	22.97	16.02	19.77
Salem.	27,140	9	17.24	20.38	21.15

The graduating exercises of the Medical Department at Dartmouth took place Tuesday evening, October 29th.

Delegates from State Medical Society: T. J. W. Pray, M. D., E. L. Carr, M. D.; Delegates from Vermont Medical Society: Henry Janes, M. D., L. C. Butler, M. D.; Committee: F. J. Small, H. M. French, W. F. Swasey.

Graduates, with titles of Theses: Fred Eugene Aldrich, N. Y., Prolapsus Uteri; John Fairfield Boothby, D. D. S., Me., Rheumatism; Edward Plinny Brewer, Conn., Sarcourata; Edward Josiah Brown, A. B., Vt., Opium and Cathartics; Frederick Chesley Clark, Me., Sick Headache; Albion Edwin Cobb, Me., Right Use of Medicines; Willie Hudson Foster, Mass., Erysipelas; Henry Minot French, A. B., N. H., Variola; Joseph Warren Gordon, N. H., Abscess; Frank Eugene Henderson, Vt., Rupture of Perinæum; Edw. Bigelow Hitchcock, D. M. D., Mass., The Teeth, etc.; Edward Gilman Inlay, N. Y., Luxations of Humerus; Edw. Avery Isbell, B. S., Ohio; Edwin Porter Linfield, Mass., Vaccination; Geo. Franklin Munsey, N. H., Repair of Fractures; Edwin Osgood Pearson, B. S., N. H. (Valedictorian), General Paresis; George Lewis Perry, Vt., Acute Peritonitis; Frederic Joseph Small, Me., Diphtheria; Wm. T. Smith, A. M., N. H. (Reader), Science and Art of Medicine; Silas Appleton Stephens, Me., Trismus Nascentium; William Franklin Swasey, Vt., Acute Inflammation; George Seeley Thompson, N. Y., Dysentery.

Books and Pamphlets Received. — Harvey and his Discovery. By J. M. DaCosta, M. D., Professor of the Practice of Medicine at the Jefferson Medical College. Philadelphia: J. B. Lippincott & Co. 1879. (From A. Williams & Co.)

THE BOSTON
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VOL. XCIX. — THURSDAY, NOVEMBER 14, 1878. — NO. 20.

LECTURES.

THE SYMPTOMS AND TREATMENT OF CYSTITIS IN THE MALE.

A CLINICAL LECTURE DELIVERED AT JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

BY SAMUEL W. GROSS, M. D.,
Lecturer on Diseases of the Genito-Urinary Apparatus.

Gentlemen, — Six months ago this man was first troubled by an intense sensation of scalding in passing his urine. The pain was felt along the whole course of the urethra, but was most severe at the head of the penis. The urine became thicker and dirtier in appearance each day. In addition to these symptoms there was frequent desire to micturate. The man was in the habit of emptying his bladder every half hour of the day and night. If he drank any malt liquor, or exposed himself to any change of temperature, micturition was still more frequent. Every now and then he cannot retain his water more than three minutes. Sometimes he has trouble in passing his water. The stream is hard to start, and is diminished in size, being occasionally no larger than a small straw in diameter. For the last two months a thin, long string of mucus, not larger than a thread, has issued from the meatus urinarius after micturition. These mucoid strings are from eight to ten inches in length. Lately they have changed into a glutinous, ropy, grayish mass. The man complains of pain upon pressure above the pubes, and also of pain in the region of the anus and perinæum after micturition.

Inspection of the urine, without any reference whatsoever to these most characteristic symptoms, convinces me that the man has a catarrh of the bladder, — a so-called cystorrhœa. The ropy, viscid discharge coming out mixed with the urine, or in a string after micturition, is an undoubted symptom of this condition.

The cause of catarrh of the bladder lies in the presence of some obstacle to the egress of the urine, such as one or more strictures; an enlarged prostate gland; a calculus; hypertrophy or sacculation of the bladder; carcinomatous or sarcomatous tumor; and paralysis of the bladder, this last occurring as a result of fracture or dislocation of the vertebræ, or being dependent upon pneumonia, meningitis, or myelitis.

The symptoms of cystorrhœa are an increasing discharge of mucopurulent matter, difficulty in micturition, pain in associate parts, and general breaking down of health. The secretion of cystitis is easy to recognize, rendering the diagnosis plain if a specimen of the urine can be obtained. There is usually in such urine a very copious sediment. Another point of diagnosis may be reached by watching how and when the discharge of viscid, ropy, fœtid, and ammoniacal fluid comes away from the bladder, not at all times, but only when the bladder is emptied. The total amount of this discharge in the course of the twenty-four hours varies. Early in the disease there may not be more than one fluid drachm of it in a day, whereas later in the progress of the attack one half of the whole quantity of fluid passed may be this muco-purulent matter. In one case which came under my notice, as much as sixteen pounds or pints of it were expelled in thirty-two hours.

This discharge is not mucus, but pus, — pus acted on by ammonia, which destroys all the pus corpuscles. This ammoniacal pus will, as we have heard from this man, sometimes string out in a mass at the close of micturition. If we examine the supernatant fluid of this discharge, it will be found to give the reaction of albumen, and to contain the crystals of the triple ammonio-magnesian phosphates.

The bladder of a patient with cystitis is never entirely empty. The urea which remains behind decomposes into the carbonate of ammonium, and this intensifies the inflammation. The character of the urine is but very little changed at first, but in later stages, as I have just said, it becomes turbid, muddy, and decomposed, and contains pus and epithelial cells, the triple phosphatic crystals, bacteria, and vibriones This being so, the first indication, of course, is to keep the bladder clean, and to change the character of the urine.

As regards the quantity of pus passed, there is not very much in this case, not more than one eighth of the total quantity of urine, — calculating with Professor Tyson, of the University of Pennsylvania, that the average daily secretion of urine is fifty ounces. Of course this daily total varies widely according to the state of the weather, etc., etc. In warm weather a large part of it passes off by the skin; in cold weather, as there is little or no diaphoresis, the diuresis is increased in amount. So, too, with regard to the use of certain articles of food. Coffee is a powerful diuretic. This man passes six and one fourth ounces of pus in twenty-four hours. This naturally causes a considerable drain on the system.

The pain in passing water, usually referred to the last two inches of the penis, in reality extends along the whole length of the urethra.

This man tells us that he also has pain in the perinæum and ano-rectal region, and occasionally in the thighs and groins. Most people have a very indefinite idea of the exact location of a pain. Thus a patient with lumbago will often come to you complaining of pain in the kidneys. So, too, a man with functional disorder of the stomach refers his subjective sensations to the heart. In this case pressure over the pubes, after the bladder has been emptied, causes pain. As a general rule pain at the end of the penis denotes inflammation at the neck of the bladder, and pain over the pubic bone denotes inflammation of the whole of the bladder.

This patient does not suffer from any constitutional disturbance. His appetite is good, and his bowels are moved regularly every day. The only thing that he complains of is that his rest is broken by his having to rise so often and urinate during the night. In most cases of cystitis we find the patient utterly broken down and emaciated.

I said that the disease was primarily due to an obstruction to the natural flow of the urine. This obstruction in the young is usually a stricture; in the old it is generally due to paralysis, or more commonly still to enlargement of the prostate gland. There are also, as I have already shown, other morbid conditions of the parts causing obstruction to the flow of the urine.

The intense desire to make water is due to the inflammation of the mucous membrane of the bladder, which may become so swollen and hypertrophied that the organ will not hold more than an ounce and a half of urine. If the bladder of a patient who has died in the early stages of cystitis be opened, its epithelium will be found to be hypertrophied, and to have become the seat of inflammatory deposits. During the course of the disease the bladder undergoes certain changes, — just such changes as would occur in any muscle if it were exercised more than its fellows. The blood would tend to it, and it would become hypertrophied and immensely developed. So in stenosis of the valves of the heart causing enlargement of its muscle. The tendency of the blood to the bladder causes an unusual development of its muscular walls in particular. In some fatal cases of cystitis brought on by stricture I have found the walls of the bladder fully three quarters of an inch in thickness. Of course, *pari passu* with this concentric hypertrophy the cavity of the bladder diminishes in size. In eccentric hypertrophy of the walls of the bladder, the cavity, on the other hand, increases in size. This man, no doubt, has concentric hypertrophy joined with increased frequency of micturition, spasm, and tenesmus. He may have enlargement of the involuntary, internal, columniform fibres of the bladder. Where these muscles are enlarged there is a sort of hydraulic pressure exerted, which drives the mucous membrane out between the columniform fibres, thus forming a number of small cysts, hernial protrusions from the bladder, as it were, which contain urine. Sometimes there are as many as thirty or forty of these cysts, which may contain uric acid calculi. Indeed, one of these cysts may be as large as the bladder itself. Here is a specimen taken from an old man who died with enlarged prostate, in which you can see the cysts which have formed between the columniform fibres. Here is a specimen of eccentric hypertrophy, in which the size of the bladder is enormously increased.

This man is forty-five years of age, and probably has no enlargement of the prostate, for this condition does not usually occur until after the fifty-fifth year. After that age one person in every thirty shows signs of that condition. In diagnosticating enlargement of the prostate by means of an instrument, a peculiar form of bougie is necessary in order to get past the obstruction. In very many cases the presence of an enlarged prostate may be determined by means of a finger in the rectum. In health the prostatic gland is about the size of a horse-chestnut.

This patient tells me that he had gonorrhœa as many as a dozen times when he was young. This history illustrates a very peculiar fact, namely, the *gonorrhœal diathesis*. One man has an attack of gonorrhœa every time that he cohabits with a certain infected woman; another man has connection with her with entire impunity, — the simple fact being that one man has the gonorrhœal diathesis, and the other has not. The last attack which our patient had was fifteen years ago. Upon questioning him closely with regard to that period he tells me that very often he woke up in the morning and found that the lips of the meatus urinarius had stuck together. Moreover, he affirms that since that last attack he has noticed a very decided difference in the size of the column of urine projected, and can only get a number 13 bougie into the urethra. From the size of the meatus it should certainly admit a number 30. Furthermore, the man says that he cannot project the stream properly. He always has to *milk* the last few drops away, as it were. This is due to the loss of function on the part of the urethral muscles. Sometimes, he says, a little streak of blood may be seen in the urine.

Upon introducing a bulbous bougie into the urethra I meet with the first obstruction about three quarters of an inch beyond the meatus. Another I find an inch and a half within the meatus. There is great sensitiveness of the urethra. Far back in its calibre I strike a tight stricture which I cannot get through. In this case the cystitis is very plainly dependent upon strictures of the urethra. I do not care to examine the man any further at present, for I might give him an attack of urethral fever. He says that he was discharged from the army on account of a disease of the bladder, — polyuria he thinks the surgeon said. Later, a New York doctor told him that there was a considerable quantity of albumen in his urine.

In his present condition it is impossible to determine whether or not the man has disease of the kidneys. The albumen in his urine may be due to kidney trouble, might be imagined to show the presence of Bright's disease in a chronic form, and yet it may be simply a product of the inflamed condition of the bladder.

In undertaking the care of a case of stricture one's treatment must of course be modified by the condition of the urinary tract. This, then, brings us to a consideration of the treatment of cystorrhœa. The first indication, of course, is to remove the exciting cause. I shall therefore enlarge the stricture by gradual dilatation. I shall try at some future occasion to wash his bladder out thoroughly, and to get a dozen drops of urine uncontaminated by the vesical discharge. If this urine contains albumen we shall know at once that the kidneys are diseased. If the kidneys are healthy the case can be cured, I think.

The first indication in treatment, as I tell you, is to remove the exciting cause. The urethra is very sensitive. While this is the case it will be hard to cure. We must try to keep down the inflammation. If there be acute pain and spasm, blood must be taken from the perinæum by means of leeches. The patient must be kept in bed, and hot fomentations applied over the pubes. At the same time he should take demulcent drinks, with a little hyoscyamus, — one drachm of hyoscyamus to each glass of the drink. If the pain is violent, morphia must be given by the mouth or rectum. The following prescription is a good one: —

℞	Pulv. opii	grs. xii.
	Camphoræ	grs. xxx.
	Ex. belladon.	grs. iij.
	Cacao	q. s.

M. et in suppos. No. vi. divide.
S. One each night before retiring.

The diet should be bland and unstimulating.

After the symptoms have abated somewhat, balsam of copaiva should be given three times in the course of the twenty-four hours in capsule, or rubbed up in an emulsion. To this opium may be added, to prevent flatulence and griping. In some cases turpentine in capsule may do good. Other remedies are buchu, decoction of trailing arbutus, or uva ursi with hops, highly recommended by Sir Henry Thompson, — uvæ ursi f℥iss., lupulinæ ʒi., aquæ Oij. This mixture should be allowed to simmer for two hours; then enough water poured in to bring the quantity of the mixture up to two quarts; then two grains of morphia and two drachms of the bicarbonate of sodium added. The dose of this mixture is a wineglassful.

In some cases benzoic acid will be found very useful. The dose, beginning with five grains, should be gradually pushed up to thirty grains, and finally as much as one drachm may be taken thrice daily. Paregoric has this acid as one of its constituents. Benzoic acid has both a soothing and a chemical action upon the parts. This latter action consists in its influence upon the carbonate of ammonium, which it neutralizes, and with which it forms a soluble compound, and so prevents the formation of the crystals of triple phosphate.

A prescription which I have often used, and from which I have derived the most excellent results, is the following: —

℞ Copaibæ balsami	ʒiv.	
Acid. benzoici	℈iv.	
Gummi arabici	ʒij.	
Sacchari	ʒij.	
Gaultheriæ olei	gtt. xx.	
Aquæ camphoræ	q. s. ad f℥viij.	M.

S. A tablespoonful every five hours.

So much for the general treatment.

The local treatment of cystitis is the most important. Cystitis can never be cured so long as a stricture of the urethra remains. Our first aim, consequently, in all cases must be to remove the stricture.

As regards the treatment of the urine, it must be borne in mind that the ammonia in the urine keeps the bladder in a constant state of irritation. The first thing to be done, therefore, after dilating the stricture enough to get an instrument past it, is to wash out the bladder. The best way, perhaps, of doing this is to procure a gum-elastic bag holding about four ounces, and to have a basin of water at 98° F. ready. Then, after drawing the urine with a flexible catheter whose end is smooth, allow the catheter to remain *in situ*, and the bladder may be washed out by simply connecting the mouth of the bag with the catheter. The warm water thus injected should be retained as long as possible, and then drawn off, and the operation repeated. If you do not happen to have this bag and a catheter on hand, get a bit of rubber tubing and a funnel; then pour the warm water into the funnel, and after it has come out through the tubing replace the funnel and repeat the operation until the water comes out clear.

If the urine is fœtid, one grain of the permanganate of potassium may be added to each ounce of warm water; or you may add a small part of carbolic acid. After the water has come out clear, if it is desired to make an impression upon the mucous membrane of the bladder, a solution of borax (fifteen grains to the fluid ounce of water) may be injected; or, still better, a twenty-grain solution of the nitrate of silver. If this solution does not cause too much smarting it may be allowed to remain ten seconds.

The patient should rest in bed during this treatment, and be placed upon a very bland diet. I forgot to tell you that after the warm-water injections have come away, if there be pain, a little morphia may be thrown into the bladder and allowed to remain there; or if this does not afford relief a hypodermic injection may be given.

In some desperate cases you may have to perform cystotomy, or colocystotomy, in order to bring about a free discharge of fluid from the bladder.

Always caution a patient with cystitis that he must not ride in wagons over rough stones. Indeed, it will be better for him not to ride at all. He must avoid stimulus, and must wear flannel next to his skin. Fish and oysters are good for him, but he should not partake of any greasy food. The bowels must be kept open by cold-water injections or saline cathartics.

A CASE OF HYDROPHOBIA: WITH REMARKS ON THE PATHOLOGICAL PHYSIOLOGY OF THE DISEASE.[1]

BY T. B. CURTIS, M. D.

Having thus passed in review some of the phenomena of respiratory inhibition in health and disease, let us now carefully consider the manifestations observable in cases of hydrophobia.

The disease is chiefly characterized by certain paroxysms commonly alluded to as "convulsions" or "spasms," and erroneously supposed to bear a more or less close resemblance to the spasms of tetanus. The first symptom to attract particular attention, in most cases, is an inability to swallow. The difficulty at first ensues upon attempts to drink cold water, but before long the patient finds it impossible to swallow warm fluids, solids, or even his saliva. At the same time there is not necessarily any difficulty in executing the movements of deglutition. Our patient was very positive that he could do so, and demonstrated the fact by going through the motions of swallowing before his attendants. The inability to drink is due to the fact that the access of liquids or solids to the fauces at once excites a violent and distressing paroxysm of apnœa. Of all the various occasional causes to which the paroxysms are due, this is the one which operates earliest and most powerfully. There is no dread of water, but a dread of apnœa, — an extreme apprehension of the agonizing paroxysms found by experience to recur on every renewed attempt to drink.

The paroxysms — presenting the same features, however originated — result from a variety of occasional causes, which it will be sufficient to enumerate as follows: (1.) Attempts to drink (hydrophobia) or to swallow food or saliva. (2.) Penetration of saliva into the fauces, whence the ceaseless spitting, deglutition being impossible. (3.) Currents of air, caused by draughts, wind, and fanning (aerophobia). (4.) Cold or wet applications to the surface of the lips, face, extremities, or body. (5.) Other peripheral irritations, such as the administration of an enema. (6.) Luminous appearances and glistening objects, including water, mirrors, lights, etc. (7.) Sounds, as of doors opening, of people walking and talking. (8.) Mental impressions, giving rise to alarming or depressing emotions (pantophobia). (9.) Attempts to draw a full breath.[1]

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[1] Concluded from page 590.

Noting, as we pass, the similarity of these provoking agencies to those concerned in the causation of the normal phenomena of respiratory inhibition in healthy subjects, let us now consider the characteristic features of the hydrophobic paroxysms with a view to determining, if possible, their nature and the mechanism of their production.

The paroxysms, when existing in their least marked degree, — as when excited in the outset of a case by some trifling cause, such as carrying a spoonful of water to the lips, or dipping the tip of a finger into a cup of water, — consist in sudden attacks of breathlessness, marked by a rapid succession of quick, shallow, sobbing gasps, during which the inspiratory efforts are of the "costo-superior type." At the same time the patient shudders, and anxiety is depicted on his countenance. The phenomena constituting such a paroxysm have a most striking resemblance, as has often been observed,[2] to what takes place in a timid, "nervous" person under a cold shower-bath. The resemblance is by no means merely a superficial one. We shall soon find that there is good reason to believe that the phenomena are identical in kind, if not in degree, in the two cases.

When more violent, the attacks — whether caused by attempts to swallow, by fanning, or occurring spontaneously, under the influence of an excitation to be explained presently — take place as follows: the patient, having been for a while in comparative quiet and comfort, resting from his sufferings, suddenly starts violently from his bed, calling perhaps for help, and struggles up on to his feet, with an expression of distress, alarm, or terror on his face. In his efforts to get quickly into a suitable posture on the floor, and to free himself from surrounding trammels, the muscular exertion of body and limbs is at times violent and frantic.

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[1] Jaccoud, rehearsing the causes of the paroxysms says: "The respiratory movements themselves may be the exciting agency. Youatt observed this fact in rabid dogs, and Bright recognized it in a patient who, on this account, was careful to avoid making full inspirations." (Pathologie Interne, 1877, vol. ii., page 931.)

See also Romberg, Lehrbuch der Nervenkrankheiten, Berlin, 1840.

[2] In a case observed by Dr. S. Cabot at the Massachusetts General Hospital in 1854, the paroxysms were described as follows: "They more resemble the catching of the breath which one experiences in taking a shower-bath, though more violent." (Massachusetts General Hospital Surgical Records, vol. lx., page 88.)

Romberg also notes the resemblance. Loco citato, page 510.

Jaccoud (loco citato, page 931) describes "a sudden arrest of respiration, quite analogous to that which one experiences on plunging into an ice-cold bath, or on receiving a cold shower-bath." Nevertheless, he considers that the paroxysms are spasmodic or hyperkinetic manifestations, and states that "a condition of excessive reflex tension in the foci of the nerves presiding over respiration and deglutition is the essential characteristic feature of rabies in man." His theory, thus enunciated, is exactly the reverse of that advocated in this paper. The two theories differ as completely as a reflex, or excito-motor, differs from an inhibitory, or depresso-motor, phenomenon.

See also Bollinger, Ziemssen's Cyclopædia, American translation, vol. iii., page 491.

Then, in the case of a spontaneous paroxysm, while gasping and struggling for breath, behaving, in short, very much like a drowning man who feels himself going under, the patient, having got himself into a kneeling or crouching posture, sets to work *spitting* in a peculiar way, as described in our reported case. Such an attack lasts perhaps half a minute, after which, having cleared his mouth and fauces of the tenacious spittle, the patient sinks back exhausted, to rest until his next seizure.

These spontaneous paroxysms, recurring with a certain degree of regularity, more or less frequently, seem to be caused by the gradual accumulation of the saliva, which the patient cannot swallow nor yet get rid of without great and fatiguing exertion, on account of its viscid character. When the saliva is sufficiently abundant to trickle into the pharynx, or in any way to be noticed by the patient, a paroxysm is suddenly originated. At first this result is probably due to the mechanical irritation of the fauces; but, later, the mental apprehension aroused by the prospect of an impending paroxysm seems to be the chief disturbing agency. The patient soon learns to associate his sufferings with their determining conditions, and, in consequence of his anticipation of the expected result, a paroxysm is begotten by the fear of a paroxysm.

In the phenomena observed in this case, as also in two other cases which I have seen, there was, properly speaking, *no evidence of spasm or convulsions*,[1] — unless a drowning man, unable to swim and thrashing about in the water, or a man clutched by the throat and struggling frantically for life, can be said to have convulsions. Great muscular exertion there is certainly, but it is of a somewhat rational and volitional kind. At the same time the breathing is short, quick, labored, thoracic, and conspicuously of the costo-superior type, the supplementary and volitional inspiratory forces being brought vigorously into play.[2]

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[1] Dr. S. Cabot, who in the course of his extensive experience has seen some seven or eight cases of hydrophobia, testifies unhesitatingly to the entire absence of true spasms and convulsions in all of them.

[2] In paralysis of the diaphragm, as described by Duchenne, "the respiratory movements are usually more frequent than in health; the respiration does not, however, appear to be much embarrassed so long as the patient keeps still. . . . . But if he makes any exertion to walk or to talk, if he undergoes any excitement, his respiration quickens; the trapezius, sterno-mastoid, serrati, pectoralis major, and latissimus dorsi muscles contract; the face reddens; the patient is breathless; he is obliged, if walking, to sit down; if talking, he must keep taking breath to finish his sentence," etc. (Electrisation localisée, 1872, page 908.)

Parrot (Archives de Physiologie, etc., 1871, page 240) is of the opinion that an unfailing

The appearances all suggest the idea of violent efforts to supplement the sudden failure of respiration, together with a frantic struggle to get free from some suffocating agency.

The patient's sensations were described by himself as follows: —

Q. Why cannot you drink? *A.* Because it takes my breath away.[1]

Q. Why do you start so when you are fanned? *A.* Because I cannot bear the wind.

Q. What does it feel like? *A.* As it would if you had a pailful of cold water thrown in your face.

In the intervals between the paroxysms, there are evidences of important disturbances, both physical and mental. The patient sighs frequently, and at times catches his breath with a sort of gasp or sob; he complains of suffering constantly from various distressing sensations, such as a feeling of præcordial oppression, of breathlessness, and of respiratory anxiety, together with a constant craving for more air.

The psychical symptoms — sometimes preceding the advent of the paroxysms (*stadium melancholicum*), and always more or less marked during the acme of the disease — consist in emotional disturbances (depression and excitement), with impairment of the restraining powers exerted by the higher cerebral functions of reason and volition. These disturbances take the forms of mental depression, anxiety, fear, suspicion of attendants, together with great restlessness and excitability, culminating in a state of delirium or even of mania. Marked sexual excitement (satyriasis, nymphomania) has occasionally been observed.[2] In the case of a female whom I saw at the Hotel Dieu in 1869, when interne under Voillemier, nymphomania was present in a most remarkable and scandalous degree, ceasing only with life.

Finally, rapidly progressing general exhaustion occurs, due largely to privation of food and drink and to the almost complete lack of sleep, accompanied by ceaseless muscular exertion. Death takes place either quietly, from gradual cessation of respiration, or during a final paroxysm.

Having passed in review the determining causes of the hydrophobic paroxysms and the appearances which they present, I will now venture

sign of impending death (agony) is to be found in certain symptoms which, he says, are indicative of paralysis of the diaphragm. These are, in the first place, an inspiratory sinking in of the epigastrium and hypochondria, and, in the second place, pronounced *costo-superior inspiratory efforts.* These last, which he says are observed in all cases of diaphragmatic paralysis, were plainly visible during the paroxysms in the case of my patient. I regret having omitted to observe the respiratory movements of the abdomen in this case, as I might thereby perhaps have been able to verify the correctness of my theory of the paroxysm, by ascertaining whether the violent inspiratory efforts of the patient were accompanied by the epigastric depression described by Parrot. Some other observer will perhaps repair this omission.

[1] See Dr. Sansom's case, Lancet, September 7, 1878, page 329: "There seemed to be a 'stop' in his breath when he tried to drink."

[2] See Jaccoud, loco citato, page 932.

to express an opinion as to their nature. Judging, then, by the strong resemblance which they bear to familiar phenomena of respiratory inhibition, as regards both their provoking causes and their characteristic features, subjective as well as objective, I believe the paroxysms to consist in sudden attacks of *paralytic apnœa*, due to temporary, partial or complete, inhibition of the respiratory centre, taking place under the influence of peripheric impressions. The inhibitory stimulus proceeds first from the area of distribution of the superior laryngeal nerve, being originated by attempts to drink and by accumulated saliva; secondly, from the area of the fifth pair, as a result of wetting the lips or face, and of fanning; thirdly, from the nerves of sensation of the trunk and limbs; fourthly, from the nerves of special sense; and, fifthly, from the emotional regions of the hemispheres, a paroxysm being excited by the fear of a paroxysm.

According to this view, the most characteristic phenomena of hydrophobia, the paroxysms, consist simply in greatly exaggerated manifestations of a familiar physiological function, namely, the function of respiratory "arrest" or inhibition, experimentally studied by Rosenthal, Brown-Séquard, Claude Bernard, Burkart, and others.

With regard to the origin or mode of production of the paroxysms of respiratory inhibition two suppositions can be made: either the inhibitory stimuli are increased, or they meet with less power of resistance in the respiratory centre. Let us for a moment consider these two views.

Increased inhibitory stimuli would be due to a sort of hyperæsthesia[1] of all the parts of the peripheral nervous system from which centripetal inhibitory impressions are known to proceed. With the exception, however, of the paroxysms themselves, whose production we are trying to account for, no evidence can be adduced to show that any such condition of hyperæsthesia capable of intensifying the inhibitory impressions exists.

Diminished resistance of the respiratory centre to occasional inhibitory influences seems a much more plausible explanation of the paroxysms. Such a condition of impaired resistance would readily result from the marked diminution of respiratory activity, existing permanently in hydrophobic patients. According to this view the positive stimulation supplied by the respiratory centre being constantly inadequate, occasional negative (inhibitory) stimuli produce exaggerated effects, and therefore *seem intensified.*

This functionally depressed condition of the respiratory centre, entailing diminished powers of resistance to inhibitory influences, is doubtless due, primarily and principally, to the structural changes taking place in the respiratory centre itself.[1] The impairment of function, resulting from such local alterations, is probably intensified by an additional depressing influence, proceeding from the morbidly active emotional regions of the hemispheres to the medulla.

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[1] Jaccoud attributes the production of paroxysms, under the influence of fanning, the contact of liquids, etc., to a "cutaneous hyperæsthesia" (loco citato, page 931). Bollinger (Ziemssen's Cyclopædia, American translation, vol. iii., page 486) says that "this excessive *hyperæsthesia* is manifestly the cause of the aerophobia," etc.

The following scheme, then, seems in a tolerably satisfactory manner to coördinate and account for the phenomena of hydrophobia: —

The activity of the respiratory centre — being kept in a permanent state of depression, "below par," so to speak, in consequence of local alterations of structure, and also in consequence of depressing influences proceeding from the diseased emotional regions of the brain — is thereby rendered liable at any moment to become reduced to zero (paroxysm of paralytic apnœa) by slight inhibitory stimuli of peripheral origin; death eventually resulting, during or after a final paroxysm, from entire failure of the inspiratory forces.

The *therapeutical deductions* suggested by this theory of hydrophobia are, I regret to say, chiefly negative, taking the form of counterindications.

The methods of treatment hitherto advocated have generally been based upon the unwarranted but undisputed assumption that the disease was of a convulsive nature, the paroxysms themselves being looked upon as the expressions of an exalted condition of the excito-motor functions of the medulla and spinal cord. To combat the supposed "spasms," all the amyosthenic and depresso-motor agents have successively been tried, curare being the drug for which the most enthusiastic and most recent claims of efficacy have been raised.[2] If, however, the theory now advocated is accepted, if the disease is characterized by *deficient* excito-motor activity, and if the paroxysms, instead of being spasmodic, are in reality paralytic manifestations, then all depresso-motor medications must be looked upon as distinctly counterindicated. Curare, in particular, which exerts an almost exclusively amyosthenic action, — by virtue of its power to prevent motor stimuli from reaching the muscular fibres, — would seem to be the very last drug to be recommended, since it kills by producing paralysis of the diaphragm. Full doses of curare would have the effect of rendering the patient powerless to struggle; in this way the outward manifestations of his sufferings would be more or less repressed. The tendency to paralytic apnœa, however, could only be intensified, and the fatal termination would thereby be hastened.

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[1] Dr. W. R. Gowers, having made microscopic examinations of the brain and cord in four cases of hydrophobia, says: "The region in which the lesions were most intense corresponds to that in which experimental physiology has located the "respiratory centre of the medulla." (Pathological Transactions, 1877.)

The results of Dr. Gowers' investigations have been confirmed by Dr. R. H. Fitz. (Boston Medical and Surgical Journal, August 29, 1878.)

[2] For a statement of the theory upon which the treatment of hydrophobia by curare is based, see Offenburg's case in the Medical Times and Gazette, October 6, 1877, page 396.

In the case of my patient, notwithstanding theoretical objections to the medication, and doubts as to the authenticity of the cases [1] of hydrophobia reported to have been so cured, it was decided, in deference to the favorable evidence [2] lately adduced, to try the treatment by curare. In so desperate a disease any treatment which seems to hold out the slightest promise of efficacy should be given a fair trial. The result in this case, however, was as unsatisfactory as possible. Several other cases are, moreover, on record, in which the same treatment proved unavailing.[3] Such being the case, I believe that, unless more convincing reasons for its use are brought forward, curare should be abandoned in the treatment of hydrophobia.[4]

Until some means of treatment shall have been discovered by which the progress of the pathogenetic processes of hydrophobia can be arrested, the resources of therapeutics must be limited to the treatment of the symptoms of the disease. The objects to be aimed at are the relief of the patient's sufferings, the prevention or mitigation of the paroxysms, the administration of food and drink, and, finally, as easy and painless a death as may be procured without the fatal termination being actually hastened by our therapeutical measures.

The frequency and intensity of the paroxysms might be diminished in two ways, namely, by preventing the reception or the transmission of peripheral inhibitory stimuli, or by increasing the activity of the respiratory centre, so as to diminish the liability to total failure under slight inhibitory influences.

With a view to suppressing the peripheral inhibitory impressions narcotics and anæsthetics have been largely tried.

Chloroformic anæsthesia, if it could be established and maintained, would perhaps cause the paroxysms to be more or less suspended. This result would, however, be difficult if not impossible to obtain. Chloroform inhalation, as we have seen, occasionally kills apparently healthy subjects by respiratory inhibition, in consequence of its irritating action upon the laryngeal mucous membrane, and would therefore be unlikely to be well tolerated in hydrophobia.[1] Moreover, when chloroformic anæsthesia is fully established, a very depressing influence is exerted upon the respiratory and cardiac centres.

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[1] In Dr. Watson's case (American Journal of the Medical Sciences, July, 1876) it is not only the recovery of the patient after three small doses of curare, amounting in all to about one third of a grain, which makes one distrust the diagnosis. The report of the case shows that the patient was throughout able to swallow liquids and solids in abundance, and that he was not apparently affected by bathing his hands and face in water.

[2] Boston Medical and Surgical Journal, March 7, 1878, page 315; also Medical Times and Gazette, October 6, 1877, page 396, and December 1, 1877.

[3] Boston Medical and Surgical Journal, March 7, 1878, page 315.

[4] Only on one supposition could curare be expected to have any but an unfavorable effect in hydrophobia. If the paralyzing influence which this drug exerts upon the cardiac inhibitory fibres of the vagus is shared by the respiratory inhibitory fibres, and if this favorable effect is not wholly overbalanced by the harmful amyosthenic action of the drug, then curare might be of service by shutting off, to a certain extent, one of the chief sources of inhibitory impressions. The liability to the production of paroxysms might thus be somewhat diminished. According to Paul Bert, however, the vagi preserve their inhibitory power over the cardiac function in curarized mammifera, impairment of the inhibitory function of the vagi having been observed only in frogs.

Ether is liable to somewhat the same objections, though in a very much less marked degree, and probably offers the nearest approach to a means of euthanasia, without exasperation of the most dangerous symptoms, and without undue risk of precipitating the probably inevitable fatal termination by paralytic apnœa.

Chloral hydrate administered by enema or by intravenous injection, although possessing no curative virtue, seems to have been of service in some cases by inducing sleep, and by diminishing somewhat the frequency and violence of the paroxysms.[2] Such a result of its narcotic properties must of course be highly welcome, provided that the drug, while mitigating the sufferings of the patient, — and thereby masking the progress of the disease, — does not at the same time impair his enfeebled powers, and hasten the fatal termination. Vulpian,[3] having lately investigated the action of anæsthetics (chloroform, ether, and chloral) upon the respiratory centre, found that in chloralized dogs a very small additional dose of the drug was apt to produce death by apnœa, the respiratory centre being paralyzed. He also found that in dogs anæsthetized by chloral the respiratory movements, when arrested by irritation of the central end of the cut vagi, do not spontaneously become reëstablished, as they promptly do in animals not under the influence of an anæsthetic. His experiments show that the narcotic action of chloral is extended to the respiratory centre, and that under its influence the inhibitory arrest of breathing is apt to be irreparable. These considerations, applicable to all the narcotic medications when pushed to the full production of anæsthesia, should be taken carefully into account in any attempt to determine the usefulness of drugs in hydrophobia.

Such seems to be the limited extent to which narcotics and anæsthetics may be expected to be of benefit. If, on the other hand, it were possible to increase the activity of the respiratory centre, which is in a condition of such marked depression in hydrophobia, the tendency to paroxysmal respiratory inhibition would probably be counteracted. Belladonna or atropia, in moderate doses, is known to act as a respiratory stimulant, whence, perhaps, its usefulness in some forms of asthma (Trousseau), and in opium poisoning, where death by paralytic apnœa is impending. It has been asserted that atropia had the property of paralyzing the laryngeal fibres of the vagus which inhibit respiration, but Keuschel seems to have shown that such is not the case, so that the increased respiratory activity caused by this drug is now attributed to its direct stimulating action upon the respiratory centre.[1] When very large doses are given this centre is paralyzed. These considerations would lead us to expect some slight benefit in hydrophobia from small or moderate doses of atropia.

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[1] In Sansom's case (Lancet, September 7, 1878, page 329) "it was determined that the ulnar nerve should be divided, and the scar on the hand removed; and further, that the administration of chloroform should be attempted. Immediately on its application, however, the patient ceased breathing, and turned to a cadaverous tint, with a feeble, fluttering, intermittent pulse. . . . Artificial respiration did no good. After about a minute a few gasping respirations occurred. Afterwards breathing was more regular, though interrupted with much gasping." In his concluding remarks Dr. Sansom says: "Though chloral was highly beneficial, it was as distinctly proved that the inhalation of chloroform was dangerous."

[2] See Sansom, loco citato; also Prévost and Hanot, Gazette hebdomadaire, 1876, page 364.

[3] Comptes rendus de l'Académie des Sciences, May 27, 1878; Revue des Sciences médicales, vol. xii., page 487.

Opium, in small or moderate doses, activates the respiratory function, thus exerting a property which is often utilized in the treatment of disease.[2] In large or toxic doses, on the contrary, it has a depressing effect upon the respiratory centre, and kills by producing paralytic apnœa. In hydrophobia, as was observed by Magendie and others, very large doses of the drug seem to be tolerated, but whether their effect as regards the respiratory function is favorable or the reverse is difficult to determine. In the treatment of hydrophobia I think caution should be exercised in the use of all drugs which have a tendency to produce depression of the respiratory centre, and, for this reason, opium should be given, I think, only in moderate doses, such as are known to have a eupnœic effect.

In conclusion of these remarks, which are intended to be only suggestive, and have no pretension to an exhaustive character, I would call attention to an important point deserving consideration in connection with the administration of powerful drugs in large doses to hydrophobic patients. In all diseased conditions in which the secretion of urine is defective, accumulation of drugs within the system is apt to occur, in consequence of the fact that their elimination is prevented or interfered with. This is known to be not unfrequently the case in Bright's disease.[3] In hydrophobia, where a condition approximating anuria exists, it seems not unlikely that drugs may produce cumulative effects to an unexpectedly injurious extent. This consideration should, I think, be borne in mind, especially in connection with the use of agents whose *toxic* effects are likely to be unfavorable.

[1] Von Boeck, Ziemssen's Cyclopædia, American translation, vol. xvii., page 675.

[2] Huchard, in a paper on the use of opium in heart disease, calls attention to the excellent effects of morphia, administered subcutaneously, in all forms of dyspnœa, especially in such as occur in paroxysms, as in asthma, and in those forms which are due to a nervous disturbance. (Journal de Thérapeutique, Nos. 1 and 2, 1877.)

[3] See Chauvet on the danger of powerful drugs in renal disease, Paris, 1877.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

MARCH 10, 1877. *Tumor of Uterus.* — DR. HALL CURTIS read the case.

M. L., domestic, single, aged fifty, entered the City Hospital on February 26, 1877. She had generally enjoyed good health, but for the past six months she had been delicate, and had been obliged to give up work three months before. She had lost flesh and appetite, and complained of great weakness, of pains in various parts of the body, especially the back, and swelling of abdomen. During the past eleven years the catamenia had been irregular, at times absent for several months. For seven months there had been no sign of menstruation, but there had been a marked leucorrhœa. Micturition was very frequent, the patient having to empty the bladder three times during the night, always with difficulty.

The circumference of the abdomen at the umbilicus was thirty-eight inches, the right side being much fuller than the left. Rising from the middle of the pubes to umbilicus, filling the right side of the abdomen, and dipping again into the pelvis, was a hard, irregularly rounded mass, neither tender nor movable, and dull on percussion. The vagina was small, the anterior wall firm and infiltrated, the cervix far back towards the sacrum and enlarged. The anterior lip was smooth and hypertrophied, the posterior studded with firm and prominent cauliflower-like masses. One was separate from the rest, the size of the first joint of the little finger, polypoid in feel.

The os admitted the tip of the little finger. The urethra was so compressed that a catheter could be passed only with great difficulty.

March 2d she was examined under ether. A uterine sound, very much curved, passed anteriorly and to the right five and one half inches into the abdominal tumor; the uterus was immovable. The sound in its course passed frequent obstructions, as if the interior of the uterus was irregular from projecting growths in its wall. Most of the growth on the cervix was removed with scissors and spoon, with considerable bleeding.

The next two days she complained of pain, but was fairly comfortable. The second night the temperature rose to 103°.

March 5th. Tympanites; tenderness over site of tumor; temperature 102°.

March 6th. Delirious during night; face pinched in expression; knees constantly flexed; vomiting; skin cold; pulse weak; abdomen distended; left side especially full, and very tender; œdema of feet. A. M. Temperature 100.4°; pulse 100. P. M. Temperature 100.5°.

March 7th. Temperature 99° A. M. The patient died at nine o'clock, A. M.

DR. W. P. BOLLES examined the parts removed from cervix, and reported that the specimen consisted of a few bits of adenoid growth, made up of follicles and cavities (as they appeared), covered with cylindrical epithelium and arising from a fibrous base which was infiltrated with granulation (inflammatory) cells, and traversed by large injected blood-vessels. The mucous membrane over either a fibroma or a malignant tissue may take on this growth, and it is therefore impossible from this alone to say positively which lies above. So far up as he could see it, however, the tissue was fibrous only.

Dr. Sinclair remarked that the microscopic appearances were the same as he had found in a mucous polypus from the rectum of a child two or three years old, following dysenteric symptoms. The tumor had been removed by ligature.

Phlegmasia Dolens terminating fatally, probably from Pyæmia. — Dr. Minot read the case.

Mrs. W. was confined for the first time November 6, 1874. She was then twenty-seven years old, of nervous temperament, and rather stout. The labor was tedious, was completed by forceps, and followed by profuse hæmorrhage. Convalescence was slow, and the supply of milk scanty. The pulse was rapid for several days, without other inflammatory symptoms. November 13, 1875, Mrs. W. was confined a second time. The labor was natural, but was also followed by copious hæmorrhage, from which, however, the patient soon rallied. There was little or no milk, and the child, which was brought up by hand, died during the following summer of cholera infantum. The third labor occurred December 27, 1876. It was natural, but like the preceding ones was followed by profuse hæmorrhage. As the pains had been strong, and the child was expelled without assistance, I was surprised that the placenta did not speedily follow. Traction on the cord producing no effect, I passed my hand into the uterus, and found the after-birth firmly adherent to the walls of the womb. It was necessary to remove it piecemeal, but it was supposed that the whole was got away. The hæmorrhage then ceased, and did not recur. The pulse could not be felt at the wrist for about an hour; the surface was cold, the face was covered with sweat, and the respiration was rapid. Ergot was given immediately by the mouth, followed by a teaspoonful of laudanum and some warm gruel, and brandy was given by the rectum. The womb contracted well, but there were severe after-pains, for which morphia was injected into the arm. No milk was ever secreted. For several days the pulse was rapid (120 in the minute), without other inflammatory symptoms, as was the case after the first labor. In about a week the lochia became somewhat offensive, for which vaginal injections of a solution of carbolic acid were employed. January 1st (fifth day) the pulse was about 100; abdomen soft, and a little tender over the womb, which was felt just above the left ramus of the pubes; no tympanites; no vomiting; no chill; no delirium; bowels in good order; appetite fair. Mrs. W. was, however, depressed and despondent, which was ascribed in part to domestic circumstances, and also to her grief for the loss of her second child.

January 4th and 5th the patient complained of uneasiness in the back, and of pains in the abdomen resembling after-pains. January 6th she had pain in the left groin extending down the thigh and leg, with numbness and loss of power of the foot. There was tenderness along the femoral vessels and in the groin. The limb felt hotter than the right to the touch, and it could not be moved without pain. There was no chill, vomiting, or delirium. The appetite was good, and the bowels were regular. Pulse 120, temperature 102°. The symptoms of phlegmasia dolens gradually developed, but about January 10th the patient became more comfortable; the pulse was 108, the limb less swelled and less painful, and she continued to improve until January 14th, when she had a rigor, lasting about twenty minutes; this recurred at irregular intervals, but never oftener than once in twenty-four hours, until January 21st. On January 15th Mrs. W., in consequence of some unfounded apprehension, had a violent hysterical paroxysm, and afterwards was frequently much excited. January 20th the pain and swelling began in the right limb; there was a good deal of delirium; the face was very pale; the pulse small and rapid; the respiration frequent; and the general condition very discouraging. The patient, however, continued to take her nourishment well, and the bowels and urine were free. The whole limb swelled enormously. Vesications formed upon the thigh, and burst, discharging large quantities of serum. The foot, ankle, and calf were mottled with dark purple spots. During January 25th the pulse was 120, and very feeble; temperature 101°. There was wandering of the mind, and the face was covered with sweat. For the first time the patient passed no urine all day, and at nine P. M. about a pint was drawn by the catheter, of which she seemed unconscious. She died at ten P. M.

The treatment consisted mainly in the administration of quinine and iron, with morphia in sufficient doses to relieve the pain and procure sleep, and fomentations to the limbs. The bowels were easily regulated, and the urine was free. The diet was nourishing, consisting chiefly of milk, with animal broths, and as much brandy as the patient would take. She was allowed water to drink as she desired. As she had once had an attack of intermittent fever, the dose of quinine was increased after the appearance of the rigors to four grains three times daily; and this proving of no avail, twelve grains were given in one dose on the mornings of January 22d and of January 23d, and six grains on the morning of January 24th. There were no rigors after January 21st. The patient felt no inconvenience from the medicine.

As there was no autopsy in this case the exact diagnosis was uncertain. The disease, as it began in the left leg, was evidently simple phlegmasia dolens. The chills and mental excitement which preceded the attack in the right leg indicate a more general affection. The blood was probably diseased, and the patient died of pyæmia or of septicæmia. As to the source of the blood infection, we may trace it to a decomposed thrombus in the left femoral vein, or to a fragment of placenta left in the womb. I am inclined to believe that the cause of death was pyæmia, on account of the repeated chills. It is true that there was no evidence of the existence of pus either in the joints or in the lungs, but probably numerous small deposits would have been found in the large organs had a post mortem been made.

Pus in Ovarian Fluid. — DR. CHADWICK cited the case of a patient who had died from spontaneous perforation of an ovarian cyst, in the service of Dr. R. T. Edes at the City Hospital. The fluid obtained with the trocar on several occasions during the preceding six months had contained much pus, although there had been no evidence of inflammation of the cyst wall shown in the pulse, temperature, or sensations of the patient. At the autopsy the principal cyst was found to have been extensively ulcerated on its inner surface. Dr. Chadwick pointed out that the pus might possibly, under such circumstances, be regarded as indicative of ulceration, and hence of the importance of immediate extirpation to prevent a fatal result by perforation, as occurred in this instance. The case is reported more fully in the Clinical Report of the City Hospital, Volume II.

Dr. Chadwick, in answer to a question concerning the diagnosis of ovarian disease by the fluid drawn by tapping, spoke of certain indications upon which more or less reliance had from time to time been placed, as for example Drysdale's corpuscles, the paralbumen of Spiegelberg, cholesterine, etc. If fibrinous coagulation takes place soon after tapping, the fluid is more apt to be ascitic. Thornton's groups of cells, which are not the same as Drysdale's corpuscles, have been held to be characteristic, but are not considered to be so at present.

Dr. Arnold mentioned a case of ovarian tumor operated upon last fall by Dr. George W. Gay. The tumor had been previously tapped, and a purulent fluid withdrawn which contained one or two silky hairs. When the tumor was ultimately removed, hair and ulceration were present over a limited surface at the base.

A member questioned whether a condition of ulceration, as found in some cases of ovariotomy, had any influence upon the results of the operation, or was to be considered evidence of constitutional disturbance.

Dr. Sinclair said he thought it indicated a good deal of vitality in the ovarian sac that cicatrization should sometimes be found in the place of these ulcerations.

Laceration of the Perinæum. — Dr. Richardson stated that among the theses recently presented for graduation at the Harvard Medical School was one by Dr. J. E. Garland, recently house physician at the Boston Lying-In Hospital. With the permission of the writer he desired to call the attention of the members of the society to one or two points which an examination of the hospital records had shown were of importance as bearing more or less directly on the question of the causes of injuries to the perinæum during delivery. Of the five hundred cases examined, 60 per cent. were primiparæ and 40 per cent. were multiparæ. In eighty-seven of the cases (about 17 per cent.) the perinæum received some injury. Of the cases in which the perinæum was injured 78 per cent. were primiparæ and 22 per cent. were multiparæ. As 60 per cent. of the cases examined were primiparæ, and 78 per cent. of the injured ones were also primiparæ, it is clear that 18 per cent. more accidents occurred among primiparæ proportionally; or, in other words, of one hundred cases of laceration 68 per cent. would be found to be primiparæ and 32 per cent. multiparæ. Of the severe cases, 90 per cent. were primiparæ. Out of twenty-eight forceps cases lacerations were observed in ten, or in 35.7 per cent., and all of these were primiparæ. As regards the extent of the injury received, it was found that in sixty-four, or nearly 75 per cent. of the cases, there was only a slight tear. In fourteen the laceration did not extend beyond the insertion of the transversalis muscle; while in nine of the cases, the rupture went through the sphincter ani. In no case, however, was the recto-vaginal septum ruptured. Of the ten forceps cases three were torn slightly, five considerably, and two well into the sphincter.

As regards the cause of the laceration, it was found that in forty-six, or over 50 per cent., the time which elapsed after the head reached the inferior strait until the end of the second stage was not longer than half an hour. In twenty-five of these the whole second stage did not exceed thirty minutes. In fifty the second stage did not last over one hour, and, if the ten forceps cases are added, it will be seen that in sixty cases, or 75 per cent., the head was rapidly delivered. In five cases the perinæum was especially rigid. Twice there had been a previous laceration. The fœtus presented by the head in all but one case, that being a footling.

The laceration was caused by the head seventeen times; by the shoulders twenty-one times; by the head and shoulders seven times; by the elbow twice; by the body once; and no mention is made of the cause in thirty-nine of the cases. In at least eight of the cases the hand was beside the face. Forty-six of the children were male and forty-one were female. Where, however, the laceration was extensive, there were found to be twice as many males as females.

In the nine cases of extensive laceration deep sutures were applied at once, with good union in six of them, while in the other three there was good union in the region of the sphincter.

Dr. Richardson said he desired to call the attention of the members to the important part which the rapidity of the labor bears to the amount of injury inflicted, and the necessity, therefore, of preventing, so far as is possible, any sudden stretching of the perinæum. To a great extent this can be avoided by holding the head back during one or two pains, when the perinæum is well stretched, so as to prevent any sudden tear at the last moment. Another point of interest is the fact that a very large number of these lacerations were occasioned by the shoulders after the head had been safely delivered. In a great measure these may be avoided if only the same care is shown in watching the expulsion of the shoulders as is given to the delivery of the head. The sharp point of the shoulder is naturally more apt to injure the perinæum than is the rounded head, and there is therefore all the more necessity for being on our guard during the expulsion of the shoulders. As a matter of fact, too little attention is paid to the shoulders, the accoucheur often considering the danger of a tear over after the head is born.

In the hospital sutures are never taken unless the laceration is extensive, the only treatment of slight ruptures being cleanliness, and occasionally the application of some stimulant to granulations which show a disposition to become indolent.

Dr. Abbot said he had supposed it was generally understood that the shoulders are a frequent cause of rupture of the perinæum.

Dr. Sinclair remarked that Simpson taught that especial care was necessary with reference to this point in the delivery of the shoulders.

Dr. Lyman said he agreed with Dr. Abbot. He had had that very morning quite a laceration, occasioned by the shoulders, and requiring to be sewed up. The head had come out well enough.

Dr. Arnold asked Dr. Richardson if he thought the sharp point of the shoulders was the precise cause of the laceration.

Dr. Richardson replied that he thought so; that the sharp point of the shoulder was forced against the constricting vaginal muscles, and compelled to break or cut its way through.

Dr. Arnold said he thought, on the other hand, that it was the greater circumference of the shoulders which occasioned the laceration. Another cause was the condition of the parts, various in different patients. The worst case he had ever had was one in which there was apparently ample room, but the state of the perinæum was such that it tore like wet paper. This was a case of natural birth, not particularly rapid, nor was the child very large. It was the third pregnancy. Dr. Arnold stated that the pubic shoulder comes first, and that there is no sharp prominence, as during the passage the shoulders are driven in in all directions. In one or two instances under his observation both points of the shoulders had passed before the rupture took place.

Dr. Lyman stated that in the immense majority of cases — and he had sewed up a great many — he used neither wire nor catgut, but common silk.

Dr. Chadwick mentioned the fact that in one case of Cæsarean section sutures of catgut had been absorbed within five or six days, and the incision in the uterus had opened.

Dr. Arnold said that he had gradually abandoned sutures, so great is the discomfort to the patients.

Dr. Minot asked an opinion concerning the practice of nicking the perinæum as a means of avoiding laceration.

Dr. Chadwick stated that cuts he had seen in Vienna appeared, when the perinæum was stretched, nearly two inches long, but were probably shorter.

Dr. Minot said he supposed the object was to cause the tearing, if any, to take a lateral instead of a median direction.

Dr. Chadwick suggested that it was also to allow the perinæum to slip backwards over the head toward the coccyx of the woman.

Dr. Lyman said it was a great mistake to suppose these things healed up when let alone. He was constantly seeing cases in which the perinæum was unhealed, as, for example, one last week, of two years' duration, in which the laceration was severe. Dr. Lyman did not think it of the slightest consequence to tie the knees together. He never failed to put in a stitch if there was anything more than the slight laceration so common in first labors.

Dr. Chadwick said that in the two lying-in wards in Vienna the opposite plans of applying serres-fines in all perineal ruptures not involving the sphincters and of leaving them to nature had been tried simultaneously with equally good results.

Local Congestion vicarious with Menstruation. — Dr. Minot reported the case of a lady, forty-two years of age, always healthy, a widow, but never pregnant, who generally flowed freely at the catamenia. When fatigued, at Philadelphia, the catamenial flow stopped on the third day, and injection of the conjunctiva of one or both eyes occurred, accompanied by pain in the forehead and eyeball. This has subsequently taken place in the latter half of the menstrual period, sometimes one eye, sometimes both eyes being affected and looking externally red. The patient had not been troubled with sick headaches.

Difficult Labor; Instrumental Delivery of a Hydrocephalic Head. — Dr. Reynolds reported the case, which is reserved for publication. After giving an account of the case, and reserving the diagnosis, Dr. Reynolds asked the society for an expression of opinion.

Dr. Richardson inferred from the slipping of the forceps a hydrocephalic head, and remarked that he had first heard of this point in Braun's ward in Vienna. The diagnosis was made out by external palpation. The fluctuating head was clearly felt, and in this connection Dr. Braun made the statement in regard to the slipping of the forceps. The woman was very thin and under chloroform.

Dr. Sinclair recalled a like case which occurred in the Royal Maternity Hospital at Edinburgh. The legs and arms were small, but the belly was enormous, and this gave the clew to the size of the head. This was delivered after perforation by the scissors. Dr. Sinclair stated that he had seen, with Dr. Damon, an exactly similar case.

Viburnum Prunifolium. — Dr. Abbot spoke of a remedy which he had lately employed with much satisfaction in dysmenorrhœa. It was well known, he said, that a secret remedy, called "Hayden's viburnum compound," had considerable reputation in these cases. The viburnum prunifolium has long been regarded as having a special action upon the uterus. Being unwilling to use the secret remedy, he experimented with a fluid extract of viburnum, manufactured by Burrough Bros., of Baltimore, with very satisfactory results. He had used it in six successive cases within the past two months, with entire relief in every instance. In one case there was not a particle of pain after the first dose. He had given a teaspoonful every second hour until relief was afforded, and it had required from two to six doses. To some patients the taste is not very agreeable, but this can easily be remedied by the addition of some aromatic. He thought it would be well to begin with the dose of two teaspoonfuls in an urgent case, and follow it up by teaspoonful doses every hour until the pain is relieved. [Dr. Abbot's experience subsequent to this meeting confirms thus far his favorable impression of this drug.]

Dr. Curtis added his testimony in four cases, two in single women, one in a married sterile woman, and one in a woman who had borne two children All got the greatest relief, the last one in particular, in whom he had previously tried everything, including morphia. Two doses gave entire relief. Metcalf's preparation has four times the strength of that of Hayden.

Dr. Lyman reported four cases in which he had tried the remedy; one patient said she was somewhat relieved, one that she was entirely relieved, while the other two were not certain that they had been benefited in any degree. He began the administration one week before the expected flow. The plant from which the extract is made is viburnum prunifolium.

Dr. Chadwick stated that he had made extensive use of the drug, chiefly in spasmodic dysmenorrhœa, and had obtained relief in many cases. It seemed to act as well as, but no better than, valerianate of zinc. In his dispensary it had been administered to fully fifty patients with a large percentage of good results, but not so invariably successful or brilliant as those just announced.

ROOSA ON DISEASES OF THE EAR.[1]

In the short space of five years Dr. Roosa's work has reached its fourth edition, and nothing can show better than this fact how well the book was adapted to the needs of the physician. The present is a reproduction of the third edition, with the exception of the nineteenth chapter on diseases of the internal ear, which has been almost entirely rewritten, and it is extremely complimentary to the author's powers of observation that, while he has found so much upon both new and old subjects to add here, there was necessity for changing so few of the opinions which had been expressed in previous editions.

We find the distinction between double hearing and false hearing more carefully drawn than before, and attention carefully directed to the fact that these symptoms are very apt to be associated with disease of the conducting apparatus. In regard to electricity we find no change from the previously expressed opinion that it is of little if any value either for diagnosis or treatment, and nothing new has been added upon this subject. Under injuries some two pages have been added to show that not infrequently hæmorrhages with resulting deafness leave no perceptible trace of cicatrix or deformity, although the deafness remains. Three new cases of primary inflammation of the labyrinth are given, which, although not absolutely conclusive, help confirm the belief in the existence of this disease.

Under concussions are a considerable number of new cases which show that the continual recurrence of a single unpleasant sound probably causes a hyperæmia of the ultimate nerve fibres of the cochlea. Certainly among boiler-makers deafness due to labyrinthine disease, most likely of the cochlea, is very common, and one of the cases given is interesting as showing how effectual the closure of the ear-passages with cotton plugs is in preventing this injury. Many of these boiler-makers presented the well-known phenomenon of hearing better in a noise, and after considering the various theories advanced to explain this curious symptom, Dr. Roosa rejects them all, and confesses himself unable to solve the puzzle, which has been handed down to us from Thomas Willis of the seventeenth century.

The experiments of Dr. Hammond and of Dr. Roosa on the action of quinine upon the ear, now first given in this work, although they have been published elsewhere, justify the supposition that the tinnitus aurium and impairment of hearing produced by this drug are due to congestion of the ultimate fibres of the auditory nerve in the cochlea, and that this congestion may extend to the tympanic cavity.

By far the most interesting and valuable addition is that upon syphilitic cochlitis, first accurately described by Dr. Roosa, and it is pleasant to see that the opinion in previous editions that the prognosis in disease of the labyrinth, occurring in the course of syphilis, is very unfavorable has been now reversed. The clinical aspects of syphilitic affections of the labyrinth are well described, and cases given illustrative both of diagnosis and treatment.

A considerable number of new cases of labyrinthine affection resulting from cerebro-spinal meningitis, basilar meningitis, scarlet fever, mumps, and measles are given. In the mysterious affections of the labyrinth which occur suddenly in mumps it is suggested that a metastatic inflammation of the membranous labyrinth has taken place.

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[1] *A Practical Treatise on the Diseases of the Ear, including the Anatomy of the Organ.* By D. B. St. J. Roosa, M. A., M. D. Fourth edition. Wm. Wood & Co. 1878. 8vo, pp. 560.

We have thus called attention briefly to the changes in this new edition; the subjects are judiciously chosen, and as conclusively treated as our present knowledge will justify. Whether some of the other parts of the book might not have been somewhat revised, especially in pathology and therapeutics, may perhaps be a question, but the whole work will continue to be a valuable guide to the practitioner from its clear yet moderate tone, and its distinctively clinical character.

THE WHITMAN POISONING CASE.

A WOMAN causes some arsenic to be bought, to destroy some troublesome water-bugs, and what are the consequences to herself and to society at large in the Charlestown district of our well-regulated city? The woman herself loses her life; the newspapers are filled for several days with details of a horrible and most unnatural crime; an innocent young girl of sixteen and a practicing physician of previous good repute are arrested and brought up for examination before the court, the one charged with murdering her own mother, with whom she had been upon the best of terms, and the other his patient, for the easier gratification of a guilty passion; the body of the unfortunate victim is exhumed after a decent burial in a distant State, and the result of it all was what? Simply that we learned what was stated, and might have been generally known and accepted from the first, namely, that a woman procured some poison to destroy some water-bugs, and paid the penalty of carelessness in its use with her life. To arrive at this conclusion, however, in this instance, it was somehow or other found necessary to smirch the good name of a pure young girl; to arraign her for a crime which we commonly associate with the characters of the most accomplished and abandoned villains of the worst historical periods; to accuse a young homœopathic physician of the blackest and foulest betrayal of trust of which a professional man could possibly be guilty; to upturn the dead as well as the living; and to subject the State as well as individuals to very considerable and uncalled-for expense. This is doing pretty well for the quiet Charlestown district, where it is evident there are individuals whose leisure and talents might find a profitable outlet in preparing cheap literature. As for the officers of the law, it is not probable that they will soon or easily allow themselves to be drawn into quite so undesirable a position again.

From the medical side, at least, there are some points in this wretched business which deserve and will repay consideration. The medical examiner was summoned to view the body, and having done so and inquired into the circumstances of the case he concluded very judiciously that he had to deal with a case of accidental poisoning, and very properly, though with a knowledge of subsequent events perhaps unfortunately, that no further interference on his part was necessary. So far all was as it should be. At this point, however, there step upon the scene some of those kind neighbors who have more time for the affairs of others than for their own, and prevail upon a physician hitherto unconnected with the case to perform an autopsy, apparently with the idea that as it was for the interest of the old coroner to hold as many inquests as possible, so it is for that of the new salaried medical examiner to avoid elaborate investigations. Arsenic was found in the stomach; this, however, did not alter the complexion of the case, and it might have been safely predicted that arsenic would be found in some of the abdominal organs before the autopsy was made. However, the case was now brought before the government in such a way that its legal representative thought himself called upon to prosecute it, and the medical examiner, whose office and functions had been practically usurped by others, was forced in self-defense to repair to the distant place of burial and procure the brain for corroboration of the results of the unofficial autopsy. From this stage the case passed through the necessary legal forms to the discharge of both prisoners, and the thorough vindication of the conduct of the medical examiner.

It is in just such a case as this that the functions of the medical examiner under the new law require the exercise of tact and judgment. Under the law inquiry is to be made into the cause and manner of death: the cause may be ascertained by the view and further examination, if necessary, of the body; the manner, in such a case as this, only by a careful consideration of surrounding circumstances, and upon this an important part of the examiner's report must be based. The body may only show that violence was committed, and the surrounding circumstances just as clearly that it was not by another, and that there was accident, and not suicidal intent. The medical examiner must at times judge facts, for it is as much his duty to spare society the unnecessary scandal and expense so plentifully provided by the old coroners as to furnish data for the detection of crime. Why should we have a salaried officer selected with great care if the friends and neighbors are to perform his functions?

A report made without a view is always open to suspicion; one based upon a view and upon a knowledge of all the correlative facts should be accepted at its face value. If, in the present instance, the medical examiner, discrediting the statements made to him upon which he established a theory of accidental poisoning, had at once put the inquest machinery in motion, with all the attendant expenses of chemical analysis and other incidentals, and had thus initiated proceedings whose issue we now have through another course of action, his personal reputation for sagacity would justly have suffered, and the law under which he acted would have been subjected to unfavorable comment.

There are two other points suggested by the case: first, the importance of extreme care in all the details of an autopsy where medico-legal questions may be involved, for a reminder in regard to which we recommend a perusal of the paper read by Professor Wood before the Massachusetts Medical Society at its last meeting, and published in the JOURNAL August 1st; secondly, the value of the brain as furnishing the most unexceptional evidence in precisely these cases of arsenic poisoning.

We have abstained from any comments upon the purely clinical aspects of the case, but we must in justice confess that a practitioner who administers "arsenicum" in arsenic poisoning has fairly earned the title of homœopath, and no one will be disposed to deny him either the courage or indifference of his convictions.

MEDICAL NOTES.

— In the JOURNAL for October 17th, page 510, we gave extracts from a Vienna letter to the Chicago *Medical Journal and Examiner* in reference to operations by Dr. Marion Sims while in Vienna. The first paragraph was as follows: —

"'Dr. Sims's patients operated upon here all died of peritonitis within ten days of the operation. I remarked to the professor who related the facts to me that I supposed they selected desperate cases for Dr. Sims to operate upon. He replied that although the cases were bad ones that did not alter the fact that they had died of the direct effects of the operation.'"

By an inadvertence which, as will be seen, was rendered excusable by the obscure tenor of the first sentence, it was made to appear that this statement referred to every one of Dr. Sims's operations in Vienna. This was so far from being the case that Dr. Sims won large renown by his gynæcological surgery in that city. The paragraph, which we repeat, related strictly to *three bad cases of cancer of the uterus*, to which reference is made in the following paragraph, and which, in the letter, preceded the one we quote above: —

"Dr. Marion Sims spent some time in Vienna during the past winter, the object of his visit being, as I am informed, to collect material for a new forthcoming edition of his work on Uterine Surgery. While here the doctor was of course considerably lionized, and invited to perform gynæcological operations. Among these he did three for the removal of cancerous portions of the womb, by a method called by the Germans '*Trichterformich Excision*,' which consists in cutting away with the scissors a funnel-shaped portion of the cervix uteri, extending, when necessary for the removal of the diseased tissue, into the body of the womb itself."

It need not be said that this paragraph should have been used in our original quotation from the letter, and we refer to the matter again because our attention has been called to a communication from Dr. Barker in the New York *Medical Record*, in which this apparent injustice to Dr. Sims is condemned.

— Virchow asked for the head of Hödel, the assassin, and was refused for moral reasons. The *Medical Times and Gazette* in commenting upon this matter, as well as upon an English decision which refuses to allow casts to be taken of criminals' heads, says: "We are fast drifting into a sentimental cycle in which a false humanity plays too important a part."

— According to the London *Medical Times and Gazette*, October 12th, page 441, "all *patent medicines* are absolutely prohibited from entry into France," which it considers "a great hardship" on English visitors, adding, characteristically, "We are no great friends to patent medicines, but, supplying as they do a natural craving for nastiness among the British public, and as the taking them forms a pleasant leisure-hour pastime for middle-aged females, we do not see why they should be excluded." "Craving for nastiness" seems a very happy expression.

NEW YORK.

— At the late annual meeting of the County Medical Society there was an unusually large attendance, and a very exciting contest. The election for the principal officers resulted as follows: president, Dr. Freeman J. Bumstead; vice-president, Dr. Alfred E. M. Purdy; recording secretary, Dr. Frederick A. Castle; corresponding secretary, Dr. Wesley M. Carpenter; treasurer, Dr. Horace P. Farnham.

— It is not often that property goes a-begging in a place like New York, but a building has actually been discovered in a quite populous portion of the city to which nobody seems to lay claim. Dr. W. De Forest Day, the sanitary superintendent, recently made an inspection of a large tenement house in East Forty-Sixth Street, about which a number of complaints had from time to time been received by the Board of Health, and discovered a most extraordinary state of affairs. The premises were in a dilapidated and wretchedly filthy condition, the walls and ceilings being broken and out of repair generally, and the stairways in a dangerously insecure condition. The building, he found, was without a known owner, and the tenants who occupied it had paid no rent for upwards of a year and a half. All the portable wood-work about the place had been either carried off or used for fire-wood by the occupants, and the doors having thus all disappeared the house was always open. Consequently a colony of tramps and "bummers" had taken possession of the premises, and were accustomed to make night hideous with their orgies; and as it was also a resort for thieves and loose characters of all descriptions, the place was a constant source of annoyance to the police. At the first subsequent meeting of the Board of Health Dr. Day recommended the summary vacation of the house, on the ground of its being in its present condition unfit for human habitation. It is certainly remarkable that such a vile den should have been allowed to remain undisturbed for so long a time.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DR. CHEEVER.

[REPORTED BY E. O. OTIS, HOUSE SURGEON.]

CASE I. *Tracheotomy in an Adult, without Ether.* — S. C., a large, stout girl of eighteen, entered the hospital on the medical side, February 6th, in the service of Dr. Curtis. She had well-marked symptoms of diphtheria, the throat being swollen outside, and inside there was a dirty white membrane. On entrance she had difficulty in breathing, which rapidly increased in intensity, so that in order to breathe she was obliged to sit up in bed all the first night.

At midnight of the following day she seemed in such agony and so nearly asphyxiated that tracheotomy was decided upon as a *dernier ressort.* She was brought to the accident room, where good light could be obtained, and the administration of ether attempted. It was at once seen that this was futile, for the poor girl, already nearly asphyxiated, could not breathe at all when the ether sponge was applied, and no effort could keep her from sitting up, in her terrible struggle for breath. So tracheotomy was done in this position, and without ether. Her neck — large and fleshy — was also swollen, which much increased the difficulty of this operation. An incision was made in the usual place, followed by a smart hæmorrhage of almost black blood. At this juncture the strugglings were so violent that a sponge was held to the wound, and the next steps suspended until she became quiet again. After some time the trachea was hooked up with tenacula, and with much difficulty an incision made in it. All these steps were rendered very slow and tedious by the abundant hæmorrhage and constant struggling of the patient. At times her face would become convulsed and cyanotic, and she seemed to stop breathing entirely. At last a dilator was inserted and held there, establishing respiration through the trachea. On account of the constant writhings of the patient, the depth of the trachea below the surface, and the looseness of the muscles and tissues from the posture, it was a long while before a tube could be inserted, and several times the patient apparently stopped breathing, and seemed to be in *articulo mortis.*

All this time the struggles and sufferings of the patient were indeed pitiful to see, great drops of perspiration standing on her face, and her eyes rolling about, mutely imploring relief. A large-sized trachea tube with a broad curve was now put in, after which the patient seemed much relieved, and, though restless, breathed easily the rest of the night. The next morning her pulse was 146, temperature 103.5° F., and respiration 36. The second day, however, she died from exhaustion, and without dyspnœa.

This case is interesting as showing the extreme difficulty of doing tracheotomy in an adult under such adverse circumstances, namely, without ether and in a sitting posture, which obliterated the landmarks for the operation. Yet in this case it seemed the part of humanity at least to attempt it.

CASE II. *Compression of the Brain; Death.* — Bridget F. was found lying on the table of the accident room one afternoon, unconscious, breathing stertorously, with lips puffing out at each respiration.

The whole history of the case was the very indefinite report that a day or two previous to her entrance she was injured in a drunken brawl, and had remained in this condition ever since. Whether she was struck, or fell down, or on what part of the body any special injury had been inflicted, no one could tell.

Her pupils responded to light, and were equal in size; she could not protrude her tongue. There were no fractures anywhere, and only a slight contusion, a scratch under the right eye, and numerous discolorations on both shins. There were slight voluntary movements, as partially raising the eyelids, and slight movements of the head. No signs of any injury to the head whatsoever could be detected. She was sent to the ward, and expectant treatment pursued. At the time of entrance her pulse was 93, and temperature 98.4° F.

At the visit the next morning she roused herself sufficiently to nod her head in reply to questions, but did not speak. She also protruded her tongue, which was covered with a thick white coat. She also located pain in her forehead.

At noon of the same day she developed convulsions of a clonic character, which continued to increase in frequency, with only occasional intervals of a few minutes' duration, until her death.

The general character of the convulsions was as follows: the mouth would begin to quiver, the lower jaw to move; the left side of the face would be drawn down, the mouth being strongly deflected to the left. The convulsive movements would then spread over the whole body. Eyes staring, and pupils widely dilated. Intensely strong and rapid action of the heart. After a convulsion the patient would sink into her previous lethargic condition. The temperature rose to 104° F., and remained at about that point or higher. Every convulsion began on the left side, which was a significant fact.

As no history of any importance had been obtained, we were at a loss to know the cause of the convulsions, — whether they were caused by a blow on the head, uræmia, epilepsy, possibly hysteria, or some offending mass in the vagina, as happened in a case in the hospital. The urine was drawn and examined, and a quarter of one per cent. of albumen found, but no casts. Nothing was found on vaginal examination. An enema was given to make sure that the rectum was empty. One sixtieth of a grain of atropia was given subcutaneously, and repeated in four hours, with no appreciable effect.

She was rapidly worn out by the convulsions, and on the second day after entrance she died.

Just before her death she passed into a semi-comatose condition, perspired very freely, with a pulse of 160, and temperature of 106° F.

As violence was supposed to have been used upon this woman, Medical Examiner Draper was notified, and he made the autopsy, with the following result: —

On turning back the scalp, a slight effusion of blood was seen at the right parietal region, evidently from a blow, though there was not the slightest discoloration or mark on the external surface over this spot. On removing the calvarium and dura mater, a large, thick clot was seen covering the whole of the right hemisphere of the brain, and about three quarters of an inch thick, greatly compressing the brain under it. The woman had without doubt received a severe blow on the right side of her head, rupturing the meningeal artery, probably causing the effusion which produced the convulsions and other symptoms.

The kidneys were also found to be granular, — an interesting fact, — presumably predisposing the woman to cerebral effusion by rendering the arteries brittle and weak. This fact of diseased kidneys might bring up an important complication in case of a trial by suggesting the question as to whether the diseased kidneys might not have been a sufficient cause for the apoplexy.

Quite curiously enough, hardly more than a week had elapsed before a case came in on Dr. Thorndike's side, whose symptoms were almost exactly like this one, and at the autopsy a large cerebral hæmorrhage was found.

This case presents the following interesting points: —

(1.) No *external* evidence of any injury to the head.

(2.) The complication of *granular* kidneys with traumatic cerebral hæmorrhage.

(3.) The question of trephining: Would the operation have been justifiable? Knowing that the convulsions always began on the left side, if done at all, it would have been done on the right side, and hence have relieved the pressure by giving exit to the effused blood and clots.

SHORT COMMUNICATIONS.

A NATIONAL BOARD OF HEALTH.

MR. EDITOR, — I rejoice to see a petition for a national board of health, although I think it would be better to wait until all the States have organized their state boards. This, however, is of minor importance, for I cannot hope, judging from the labor needed in some of our great States to get the local boards, that by one petition to Congress we shall gain our object. We shall have to repeat the petition, I fear, many times before success will be attained.

I regret, however, that the petition, as now devised, proposes wholly to omit the laity as members. This is, as I deem it, *a great misfortune*, and for the following reasons: —

(1.) Sanitary matters ought to appeal very strongly to every man and woman in the land. Every one can easily study the subject. Many sanitary measures appeal to the good sense and common intelligence of the community as much as they do to professional learning. Therefore, *we need on every sanitary board able laymen.* We certainly need a lawyer, a civil engineer, and one or more business men. These classes have been in one instance, at least, namely, our Massachusetts State Board of Health, of infinite value to the State. While deferring to the medical men on the board on all strictly professional matters, they have constantly made wise suggestions of great value to the proper working of the board.

(2.) We have had in this State, and also in England, laymen who have done an immense work for sanitary science. Need I add more than the name of Lemuel Shattuck, of Boston, — the real founder of our own board, — and those of Rawlinson and Chadwick, of England?

For these reasons I hope that the petition before being presented will make some provision for a representation of the laity upon the national board.

Yours truly, HENRY I. BOWDITCH.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT. — No. XVIII.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, *November* 9, 1878.

NEW ORLEANS, LA. — There were 11 new cases of yellow fever and 143 old cases reported for the week ended yesterday evening. For the past twenty-four hours no new cases and two deaths. Quarantine raised on the 5th inst. Total cases 13,406, — subject to revision. Total deaths 4010.

MORGAN CITY, LA. — There were eight cases of yellow fever and three deaths during the past week. Total cases to yesterday evening 571, deaths 105.

MOBILE, ALA. — During the week ended yesterday evening there were 35 cases of yellow fever and nine deaths. Total cases 259, deaths 68.

PASS CHRISTIAN, MISS. — Seven new cases of yellow fever and one death for the past week. Total cases 196. Total deaths 21.

OCEAN SPRINGS, MISS. — For the week ended yesterday noon there were four cases of yellow fever and no deaths. Total cases 150, deaths 30.

HERNANDO, MISS. — Ten cases of yellow fever and five deaths for the week ended November 2d. No cases and one death during the past week. Total cases 175, deaths 69.

DRY GROVE, AND LEBANON CHURCH NEIGHBORHOOD, MISS. — Since October 19th there have been 13 new cases of yellow fever and eight deaths. No new cases and but one death for the week ended November 6th. Total cases 125, deaths 52. Crystal Springs, Miss., near Dry Grove, has so far escaped the fever.

Memphis, Tenn. — During the past week there were 33 deaths from yellow fever. Total deaths to the evening of the 7th, 2997.

Chattanooga, Tenn. — Nine new cases of yellow fever and four deaths during the past week. Total cases to yesterday evening 444, deaths 133.

Cairo, Ill. — During the two weeks ended yesterday there were eight new cases of yellow fever and three deaths. The last case occurred on the 4th and the last death on the 6th inst. Total cases 83, not including some doubtful cases. Total deaths 44. Heavy frost the 8th inst.

Vicksburg, Miss. — There were 11 deaths from yellow fever during the past week. No deaths during the past twenty-four hours. Six deaths during the week in the country near Vicksburg.

Delta, La. — Four deaths from yellow fever during the past week.

Decatur, Ala. — During the week ended last evening there were eight cases of yellow fever and one death. Total cases 196, deaths 43.

Gallipolis, Ohio. — No new cases of yellow fever since October 26th. The last death occurred October 27th. Total cases 65, deaths 37, — not including six deaths which occurred on the steamboat John Porter.

Key West, Fla. — No yellow fever since October 13th. The United States troops returned to Key West on the 7th inst.

Havana, Cuba. — Twenty-four deaths from yellow fever and four from small-pox for the week ended November 2d.

Lambayeque, Peru. — For the week ended October 12th sporadic cases of yellow fever are reported.

Martinique. — There were no deaths from preventable diseases in the island of Martinique during the week ended October 9th.

Bermuda. — During the two weeks ended October 29th there were six deaths from all causes out of a population of 15,293, including 3218 military and naval force. The bark Blackpool, which left Bermuda quarantine for England October 22d, had three or four cases of yellow fever on board.

Japan and China. — Dr. Simmons, sanitary inspector for the Japanese government for the port of Yokohama, reports under date of October 10th that he regards the occasional reported cases of cholera in Japan during the past summer as cholera morbus, and not malignant or Asiatic cholera. On the 2d of October, however, malignant cholera broke out in Nagasaki, and in eight days there had been 58 cases and 10 deaths. Cholera has existed in Shanghai, China, for several months, and as Nagasaki is the first port of Japan entered by vessels from Shanghai, Dr. Simmons regards the outbreak as a new importation, but owing to the lateness of the season and the sanitary measures instituted by the government he does not anticipate a spread of the disease.

Europe. — In one hundred and forty-nine cities and towns of the German empire, having an aggregate population of 7,369,009, there were during the week ended October 12th 5470 births, and 3539 deaths from all causes, being an annual death-rate of 25 in 1000 of the population. Wiesbaden shows the lowest death-rate, 11.2, and Chemnitz the highest, 33.8. The total deaths include 80 from enteric fever, 127 from scarlet fever, and 154 from diphtheria. No deaths occurred from cholera, yellow fever, small-pox, or typhus fever.

Vienna, Austria. — During the two weeks ended October 19th 700 deaths are reported out of a population of 727,271, being an annual death-rate of 25.53 per 1000 of the population. The total deaths include 15 from small-pox, five from enteric fever, 11 from scarlet fever, and 46 from diphtheria.

Hamburg. — During the week ended October 12th there were 53 deaths from typhus fever, 10 from scarlet fever, and 39 from diphtheria and croup.

Great Britain. — In twenty-three large cities and towns of the United Kingdom, having an aggregate population of 8,373,953, there were 6095 births during the week ended October 19th, and 3371 deaths from all causes. In twenty-one of these cities there were 14 deaths from small-pox, 184 from scarlet fever, 22 from diphtheria, and 90 from fevers, principally enteric.

John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 2, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	450	21.40	23.42	28.71
Philadelphia.	876,118	286	16.98	18.80	21.54
Brooklyn.	549,438	219	20.73	21.51	25.50
Chicago.	460,000	130	14.69	17.83	22.39
Boston.	375,476	151	20.91	20.10	24.34
Providence.	100,000	35	18.20	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	15	14.20	20.06	22.30
Cambridge.	53,547			18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	21	30.74	20.42	19.67
Springfield.	33,981	11	16.84	16.02	19.77
Salem.	27,140	3	5.75	20.38	21.15

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American Public Health Association. — Gentlemen who expect to attend the meeting at Richmond, Va., next week, can obtain tickets at half price by informing Dr. C. F. Folsom, Secretary of the State Board of Health, State House.

Boston Society for Medical Observation. — The next regular meeting of the society will be held at 36 Temple Place on Monday evening, November 18th. Dr. Vogel will read a paper entitled An Unfortunate Case.

Books and Pamphlets Received. — Case of Poisoning by Oil of Chenopodium. By Thomas R. Brown, M. D. (Reprint from the Maryland Medical Journal for November, 1878.)

Transactions of the Pathological Society of Philadelphia. Volume VII. Philadelphia: J. B. Lippincott & Co. 1878. (From A. Williams & Co.)

Transactions of the Medical Society of New Jersey. 1878.

Human Osteology. By Luther Holden, F. R. C. S. Fifth Edition. With numerous Illustrations. Philadelphia: Lindsay and Blakiston. 1878.

Questions on Anatomy, Histology, and Physiology for the Use of Students. By C. L. Ford, M. D. Ann Arbor. 1878.

Habitual Drunkenness and Insane Drunkards. By Dr. Bucknill, F. R. S. London: Macmillan & Co. 1878.

Der Alcoholismus, seine Verbreitung und seine Wirkung, etc. Von Dr. A. Baer, Königlichem Sanitäts-Rath und Oberarzt, etc. Berlin. 1878. Aug. Hirschwald. (Received from Dr. H. I. Bowditch, Chairman of the State Board of Health.)

Notes on the Treatment of Skin Diseases. By Robert Livring, A. M., M. B. Cantab. Fourth Edition, revised and enlarged. New York: William Wood & Co. 1878. (From A. Williams & Co.)

Diseases of the Bladder and Urethra in Women. By Alexander J. C. Skene, M. D. New York: William Wood & Co. 1878. (From A. Williams & Co.)

The Eighth Annual Report of the Board of Directors of the Free Dispensing Association of Buffalo. October, 1878.

Accidental Hæmorrhage. (Buffalo Medical Association.) By F. W. Bartlett, M. D. 1878.

The Eradication of Syphilis and Crime by the Extirpation, in that Class, of the Procreative Power. A paper read before the Maine Medical Association June 11, 1878. By George F. French, M. D., of Portland. 1878.

THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIX. — THURSDAY, NOVEMBER 21, 1878. — NO. 21.

LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. X.

BY DAVID W. CHEEVER, M. D.,
Professor of Clinical Surgery in Harvard University.

Urethral Stricture. — GENTLEMEN: I propose to-day to begin with some of our older cases. This man, whom you have seen before, has for a long time been a person of irregular and intemperate habits. He has a stricture, which, as in nine such cases out of ten, is the result of gonorrhœa. The stricture developed until it caused complete retention of urine. When I was called to him he had not urinated for thirty-six hours; the bladder was dilated up to the navel, and distress was great. If a patient in this condition were not relieved, would the retention kill him? Suppose him to be in the country, out of the reach of surgical assistance; would he die? Ordinarily he would not, for in such a case before death occurs nature throws in a saving clause, and rescues the patient by dilating the urethra, which, when the bladder is extremely distended, is pulled open, thus allowing some leakage; and although the stricture is not permanently bettered, the patient is relieved. A person but rarely dies from retention of urine; it was, however, once my fortune to see a death from this cause. The patient was an Irishman. The retention was made worse by the presence in the bladder of clots of blood. I introduced a small catheter through which came a dribble of urine; but this was soon stopped by clots and mucus. I then advised tapping or cutting. The patient refused to submit to either operation. Everything was done to overcome his obstinacy; even his priest was called in to use his influence, but without avail; the man became stupid, probably from absorption of urea, and died, sweating, vomiting, and with a full bladder. Just before death an enormous perspiration drenched his entire body, — an evidence that nature attempted relief by pouring out water through this channel. The man lived until the fourth day.

When, unfortunately, the stricture does not yield to the pressure of a distended bladder and allow the urine to dribble away, it sometimes happens — because of the pressure — that the urethra bursts behind the stricture. Then we have urinary infiltration, in front of the triangular ligament into the scrotum and penis, and up into the abdominal walls. This extravasation of urine, although it relieves the urgent distress of the patient, soon causes sloughing and absence of the connective tissue, and unless alleviated by free incisions is fatal. A distended bladder is a dangerous condition. Surgically there are various methods of relief: We may take a curved trocar and tap the bladder, behind the prostate gland, through the anterior wall of the rectum. The finger is first introduced, until it feels and passes beyond the prostate gland; then the trocar is carefully passed in along the finger. This is not always a safe operation, for, in old persons, the prostate gland is sometimes so large that it becomes perforated, and abscess results. It is an inconvenient operation, because when the first defecation occurs the catheter, which otherwise might remain in the bladder, must be removed. What becomes of the perforation? It does not seem to create any trouble, and never results in a fistula.

Another operation is to tap the bladder over the pubes in the locality which we know to be free from peritonæum. The trocar has been used here, and a catheter subsequently inserted, which emptied the bladder like a siphon. Within a few years, however, the introduction of the aspirator and the needle has made the operation much more easy. The proper way of employing the needle is to rotate it into the bladder, first, however, making an incision in the skin, so that the needle may not become clogged. This method of relief is so safe that it may be often repeated. The one objection to the use of the aspirator in retention of urine — as proved in our patient — is that it does not thoroughly empty the bladder; for, in almost all these cases, the presence of mucus prevents a free flow of urine through the needle. When this patient entered the hospital I aspirated eighteen ounces of urine from his bladder, but found that more remained, which, because of its thickened quality, I could not draw through the needle.

So far as I know there has been but one fatal result from this use of the aspirator. In this case, which happened outside the hospital, the tapping was correctly done, but the needle was left *in situ* four days. It is not difficult to imagine what followed. Obedient to the respiratory movements of the diaphragm, the needle rode up and down until it became loosened at its point of entrance into the bladder, and urine began to leak into and between the tissues of the abdominal walls and down into the pelvis. Over the abdomen I found a large, hard cake of infiltrated urine; the needle was thoroughly clogged with mucus, etc., and the patient died from pelvic abscess caused by the irritating urine. Therefore, although this form of puncture is perfectly safe, common sense must be used when we adopt it.

The patient before us was brought into the hospital with a distended bladder. After many attempts my assistant finally passed a small, capillary catheter, which, however, soon became filled with clots of mucus, and the man remained thus until I tapped his bladder with the aspirator needle and relieved him. In twelve hours from that time he was as bad as ever. A capillary catheter again was tried, but without success. I therefore resorted to Cox's operation, which consists in tapping the bladder by the membranous urethra, through the perinæum and at the apex of the prostate gland. The instruments necessary for this operation are a narrow knife, a director, and a catheter. In his day Mr. Syme introduced the operation of cutting through the stricture without a guide, by picking his way through the perinæum until he had found the small orifice in the stricture. But this operation is not only lengthy, in some cases occupying one and a half hours, but causes great laceration and hacking of the tissues. Mr. Cox, of Guy's Hospital, adopted the bolder practice of plunging his knife into the bladder through the perinæum.

The details of Cox's operation are as follows: the patient is put into the position for lithotomy; the surgeon introduces his finger into the rectum, finds the prostate, and, using the isthmus between its two lobes as a guide, draws the finger forward to the membranous portion of the urethra, which, as you know, is directly in front of the prostate gland. The knife enters the perinæum exactly in the median line, between the bulb of the corpus spongiosum and the anus. The finger being in the rectum, the blade of the knife is pushed inward and downward, until only the thin wall of the membranous urethra interposes between the back of the knife and the finger. By keeping the knife precisely in the centre of the perinæum we may do this very accurately. Next, the handle of the knife is depressed; the point is correspondingly raised and pushed straight on through the prostatic urethra into the bladder. A gush of urine proves that the blade has entered the organ.

As the blade is withdrawn it should be made to cut upward a little. Next, and before taking out the knife, a long director is introduced, and by means of its groove a large catheter, without a stylet, is passed into the bladder and fastened in. This completes the operation.

Cox's operation is very satisfactory but of course is not justifiable if we possibly can pass an instrument through the stricture.

Our patient was tapped by this method one week ago; a No. 12 catheter was introduced, and to its outer end a rubber tube was attached, then led to a vessel under the bed, and thus has acted strongly as a siphon. Now, what are we to do for the stricture? The tube could remain as it is, but we must restore the normal calibre of the urethra. I will show you how this is done. As a first move it is best to use the whalebone bougies of Goulay. They have two advantages: first, they are sufficiently stiff to offer the needed resistance;

secondly, at their point they have an angle which by rotation finds its way through the stricture. When one of these instruments is once in the bladder, we slide over it a dilator, which in one side has a slot for the reception of the bougie. Holt's dilator, which I now show you, is another good instrument. It is so made that the urine can pass, and is capable of being dilated by a solid rod which is introduced between two halves of the instrument, and carried in beyond the stricture. This is a favorable form of treatment in cases of mild nature, but when they are severe we cannot wait to dilate. Another means of overcoming the stricture is by the introduction of a small, grooved staff, which receives a triangular knife provided with a blunt side to protect the opposite wall of the urethra. When the knife reaches the stricture, however, it cuts the obstruction, and gives to the urethra a uniform size. This is the instrument of Maisonneuve. As I now hold it, you see its mode of action. Dr. Fifield has this morning shown me Tievan's stricture staff, a very long instrument. It resembles Syme's staff in having a small groove as a guide, but its essential points are these: the staff is in two parts, one being the ordinary curved and grooved staff, the other a straight joint, by which the first is much lengthened. After this has been introduced into the bladder a large rubber tube is passed over it down to the stricture. The inner end of this tube is beveled off nearly to a point, so that it acts as an indicator of the exact site of the stricture, for the tube can be felt through the perinæum at its point of arrest. I demonstrate its peculiarities in my two hands, thus.

Much of what I have said to you can be found in the books, but I have mentioned three facts which are certainly important, namely, first, in prolonged retention of urine the bladder will leak by a dilatation of the sphincter muscle; secondly, in retention of urine death *has* occurred as a result; and thirdly, in this affection the aspirator is safe, but it will not do to leave the needle in the bladder, and the instrument will not completely empty that organ.

Turning again to our patient you see what his condition is, — his flesh soft, waxy, flaccid, and almost œdematous, the characteristic bloating of intemperance. This appearance would make me suspicious that we should find albumen in the urine, and the kidneys in a state of disease, if it were not that an examination has been made, and no more albumen found than could be accounted for by the pus and blood, and no casts were seen. Probably, then, the kidneys are fairly healthy.

Our next step is to find the stricture. Goulay's bougie passes in five inches before it is arrested, showing that the stricture is well back in the perinæum. In using elastic bougies after Cox's operation they are apt to turn and slip out through the wound in the perinæum. My bougie, however, has gone beyond the stricture, and over it I pass the grooved dilator, which now is in the bladder, as I prove by feeling for it with my finger in the rectum, and also by the freedom with which it revolves. I might introduce my finger into the wound but for the danger of breaking up the granulations. I now take a Holt's dilator, and, inserting it without much difficulty, distend the urethra by means of these rods as already explained. The size of the last rod shows that the canal is well opened. It may not yet be easy to introduce this elastic catheter, but I find it has entered the bladder, in which we shall keep it by means of tapes.

The question now arises, Is there any danger of infiltration or absorption after rupture of the urethra by the use of Holt's and Goulay's instruments? If a catheter is kept in the bladder a few days there will be but little danger of infiltration. Sometimes, however, septic absorption, probably through the venous sinuses of the prostate or the bulb, occasionally occurs. I have seen one fatal result after the use of Holt's dilator.

We have now completed the present treatment of this case, but it must be followed up by keeping a large catheter in the bladder. This we shall do for a while, after which we shall pass one every few days. The patient will be taught and urged to introduce a bougie himself after leaving the hospital. He will soon find that it hurts, and so will choose one of smaller size, and will never return to the larger instrument. By and by he will find the urine flowing so slowly that the catheter will be thrown away altogether, and in six months he will be as bad as ever. This is the common history of such cases. The only prevention of a renewal of the stricture is dilatation with a large catheter *once a week for life.* Otherwise, in spite of any treatment, the stricture will recontract. I saw this well exemplified quite lately in an old gentleman, whom I found in great agony from retention of urine. For forty years he had been treated by various physicians, but in spite of abundant means he allowed his stricture to recontract every year or two during the entire period of its existence.

Another question is as to whether the perineal cut will heal while the catheter is in the bladder. My experience is that the presence of the catheter retards the process of healing. But the patient must wear the catheter for the present. Later it should be introduced every other day. When the perineal sore becomes chronic, we can hasten the healing by allowing the patient to walk about. While he remains in bed the tissues will be soft and indolent. Fistula in perineo and fistula in ano sometimes heal better in their later stages, after operation, by allowing the patient liberty to go about moderately.

Syphilitic Constriction of the Pharynx. — Our next patient is a female who has severe constriction of the throat, as a result of specific disease. She gradually and slowly became unable to breathe, and I now propose to see what can be done to overcome or relieve the constriction.

The patient entered the hospital with tertiary syphilis. The pillars of the fauces were ulcerated away, and the passage downward was gradually closing. Before the condition becomes too bad I think it best to attempt dilatation; otherwise an almost impassable contraction will form. In the wards we have a man who has been in the hands of various irregular practitioners. His throat is so nearly closed that I thought it must be the effect of caustics. But the patient says the disease alone has done the work. In his case I have been obliged to do tracheotomy. In treating the patient before us I first introduce a gag to keep the mouth freely open. On examination I find the passage up into the pharynx is extremely small; the route downward is not so much affected. I now introduce a large catheter through the nose and down into the pharynx, thus dilating the constriction. Giving the catheter the proper curve, I pass it reversely from below upward and from behind forward into the nose. The instrument barely goes through. I now take what is called the rectal bougie of various sizes, and now resort to the finger, which after all is better for purposes of dilatation than any form of bougie. I have broken down the contraction pretty well, and think it not prudent to do more to-day. The dilatation will have to be repeated.

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THE PHYSIOLOGICAL PATHOLOGY OF THE HYDROPHOBIC PAROXYSM.

BY JAMES J. PUTNAM, M. D.

Having been much interested in Dr. T. B. Curtis's discussion as to the nature of the hydrophobic paroxysm, in the last two numbers of the Journal, I venture to suggest a modification, or rather an amplification, in certain respects, of the theory there suggested in explanation.

The hydrophobic paroxysm, as described by Dr. Curtis, seems to consist of two elements joined together in varying proportions: first, of dyspnœa, due, no doubt, as he shows, to inhibition of the inspiratory centre; and, second, of a sort of excitement, which may fairly be called hysterical in nature, resembling that of a person who has lost all control of himself through fear of some danger, which he is making wild and to some extent irrational efforts to avoid.

As regards the exciting causes of the inhibition of respiration, Dr. Curtis enumerates a number, of which the chief is excitation of the superior laryngeal nerve, and among the rest emotional excitement.

The occurrence of these inhibitory phenomena to the exaggerated degree here present might be said to imply either that the respiratory centre is abnormally susceptible to inhibitory influences; or that the inhibiting impulse is extremely powerful. It is these points which we can, I think, profitably examine more closely.

It appears to have been clearly demonstrated by the recent valuable investigations of Professor Wundt, of Leipzig, that the power on the part of a nervous centre to be inhibited — if the expression may be allowed — is one the possession of which implies that the nervous tissue is in a state of relatively good nutrition, and that it is that power which is lost the first under the influence of disease, of fatigue, of poisoning with almost any drug.[1] Thus, to take an example from the sphere of cerebral activities, we know that emotional manifestations, kept under control when we are vigorous and well, break forth more readily when we are fatigued or sick, and it is hard to doubt, after reading Wundt's exposition, that the law is of universal application.

Inasmuch, then, as we have in hydrophobia a case of manifest impairment of nutrition of the respiratory centre, as shown both by its imperfect working between the paroxysms and by the structural lesions discovered in the medulla oblongata, we must certainly reject the theory of over-sensitiveness to inhibitory influences until compelled to adopt it under the rule of exclusion.

We are left then, provisionally, with the second hypothesis, that in favor of a powerful inhibitory stimulus, to explain the observed result. What is the nature of this stimulus? There is no evidence, as Dr. Curtis points out, that the impressions made on the skin or mucous membranes are thus abnormally intensified. Patients who are able to discriminate between the various contacts, as such, and their results, state that drinking, fanning, etc., are attended by no unusual sensations.

There is, however, one kind of inhibitory stimulus which is always active to some extent, in connection with the rest, in exciting the paroxysm, and which is sometimes exclusively active; that is, the stimulus furnished by the emotional excitement which in such cases is always present, and which appears to rise and fall in the same ratio with the intensity of the attacks.

This seems, indeed, the only form of stimulus which we can imagine furnished in the quantity which the case appears theoretically to demand, and the question arises if it is not really the exclusively efficient form.

It is worthy of note that in the analogous instances of inhibition met with in ordinary life, as, for instance, that caused by the shower-bath, the effects produced increase in direct proportion to the "nervousness" or lack of control of the subject, until finally a degree of emotional susceptibility is reached which is the underlying cause of paroxysms approaching in severity those of hydrophobia, and this susceptibility may be either natural or due to present influences. The behavior of "nervous" persons in the presence of danger, the cases of death from emotional excitement, the aimless struggles of a drowning man, are instances of this kind. In most of them, to be sure, the turning-point of the paroxysm is not dyspnœa, but the distress, terror, struggles, and *breathlessness* of a timid person "spattered" briskly when bathing, by a number of others, is a case more exactly in point.[1]

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[1] The only (apparent?) exception being the behavior of the cardiac ganglia.

According to the view here advanced, the hydrophobic paroxysm — so far as the inhibitory element is concerned — is *directly* due to the reaction on the respiratory centre of the morbid mental state of the patient centred, as it is, on a feeling of respiratory distress, which he feels himself incompetent[2] either to account for or to resist. The exacerbations of excitement are induced by anything which suggests, no matter how remotely, an increase of this constant respiratory distress, or, still more, which itself increases it, no matter how slightly, such influences thus acting mainly as *indirect* causes.

The merits of this view are that it contradicts no physiological principles; that it brings into harmony with the rest cases such as that described by Romberg, of the boy who was said to have had his first paroxysm induced by the *sight* of a glass of water, before it had touched his lips, but who, nevertheless, on making a quiet effort, succeeded, later, in swallowing small quantities without ill effects; that it unites under one scheme the paroxysm and the mental state of the patient between the paroxysms, which is usually flighty and restless.[3]

It was said at the outset that the hydrophobic paroxysm is made up of two factors, and we have considered hitherto only the element of respiratory inhibition.

Although, however, the occurrence of a certain amount of respiratory distress forms the central feature of the paroxysm, it cannot, I think, be said to constitute its most important symptom. Even if we admit that the activity of the inspiratory centre is depressed for a time (during the attack) to the zero point, we reach no explanation of the really characteristic features of the hydrophobic paroxysms. A healthy man can suspend his breathing for upwards of a minute without suffering a fraction of the distress manifested in such attacks. The dyspnœa is rarely so great as to cause any considerable accumulation of carbonic acid in the tissues, and though the patients are said sometimes to die asphyxiated, it is certainly not with acute asphyxia. It is probable that the case marches steadily towards a fatal end even in the intervals between the paroxysms. No doubt the result may be hastened by the occurrence of the attacks, but probably more from the excitement of the patient than from the inhibition of his respiration.

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[1] This, as well as other examples, is borrowed from Dr. Curtis's paper. He also dwells somewhat on the inhibitory influence of the emotions, but does not attach the same importance to them that I attempt to do.

[2] The absence of this element of mystery, no doubt, has to do in part with the absence of great excitement in cases of dyspnœa from gradual compression of the trachea and in asthma.

[3] Romberg describes or quotes from Parry an interesting symptom of this permanent mental state, which I have not seen mentioned elsewhere. It is that movements are made with an extreme, nervous haste. "The performance of an act seems to precede the volitional impulse," — evidently from diminution of the habitual inhibitory influences.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Passage of Migratory Cells through Inflamed Serous Membranes. — Arnold[1] has endeavored to ascertain through what parts of inflamed serous membranes the amœboid cells reach the surface, and what may be the condition of the substance between the superficial endothelial cells under such circumstances. He was enabled to observe that the cement between these endothelial cells became irregular in its outline after inflammation was produced, and that the migratory cells reached the surface by passing between the endothelial cells, never through them. The cement became swollen, and showed a series of dots and rings when stained with nitrate of silver; this alteration was so extensive and so uniform that it was not to be regarded as an accidental or unimportant occurrence. On the contrary, it was thought to be a direct result of the inflammatory process, and due to an increased tension of the membrane and a more abundant flow of fluid towards the surface. It could not, however, be determined whether the cellular migration was first in point of time, being followed by the punctiform changes, or whether the reverse was the case. The general impression derived from the observation of the living object was that the alteration of the cement was primary.

Relation between Tuberculosis and Scrofula. — The investigations of Friedländer[2] with regard to a local tuberculosis have been made the subject of an experimental criticism by Bollinger.[3] He objects to the inferences drawn from experiments made upon rabbits and guinea-pigs, since a variety of causes may result in the production of affections similar to tuberculosis, though not identical with human tuberculosis or phthisis. Even if a peritoneal outgrowth of nodules resembling tubercles follows the insertion of various indifferent objects into the abdominal cavity of these animals, it is by no means to be inferred that tuberculosis of the human species and other mammals is not due to a specific agent.

The experiments of Bollinger were made upon a goat, and a classical miliary tuberculosis of the peritonæum followed the introduction of a fluid containing cheesy particles from a tuberculous bovine lung. The resulting tubercles differed in no way from the miliary tubercles of man, and their local development was independent of the course of the blood-vessels or of the larger lymphatics. Furthermore, there were no evidences of peritonitis except at that part of the peritonæum where the wound had been made. It was therefore evident that, in the inoculated variety of tuberculosis, the miliary growths may occur in healthy tissues as well as in those subject to inflammation. He considers that this experiment justifies the view that there may result from inoculation a tuberculosis thoroughly homologous with human tuberculosis.

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[1] Virchow's Archiv, 1878, lxxiv. 245.

[2] See the JOURNAL, October 23, 1873.

[3] Mittheilungen aus dem pathologischen Institute zu München, 1878, page 194

In the same paper he gives the history of his attempts at determining experimentally the relation between scrofula and tuberculosis. A part only of the contemplated plan was carried out, and bits of a supposed scrofulous gland were inserted within the abdomen of a goat. The animal died after several weeks, and a miliary tuberculosis of the peritonæum was found. The effect of this experiment suggested to Bollinger that the individual from whom the scrofulous gland came was suffering from a tuberculous scrofula; further examination showed that solidification and fine râles were present at the top of the right lung. The inference drawn from this experiment was that certain diseases clinically regarded as scrofula are nothing else than a beginning tuberculosis, and that a differential diagnosis may be made by experiment in certain initial forms of tuberculosis which pursue the course of scrofula. This experiment also confirmed the view that the agent which is present in the cheesy mass causes tubercles but not inflammation.

Other experiments have enabled him to state that certain forms of tuberculosis, induced by feeding, bear a strong morphological resemblance to scrofula of the human species, and that in many such cases the most striking change is an alteration of the lymphatic glands, like that which occurs in scrofula and tabes mesenterica. He further considers that his experiments justify him in stating that two forms of scrofula may be distinguished: the one simple and benignant; the other a specific tubercular form, which may be regarded as a beginning tuberculosis.

Transmission of Tuberculosis through the Air. — At the annual meeting of the society of German naturalists and physicians, Lippl[1] gave the results of his experiments concerning the production of tuberculosis, assuming that the introduction of an infective material is the important factor. He endeavored to compel an inhalation of sputa from tuberculous patients, the minutest particles alone being used, that the irritating effect of large fragments might be avoided. Dogs were selected as the most suitable animals for experimentation, from the rarity with which they become tuberculous. This series of experiments proved negative. When the sputum was diluted with a weak solution of salt and water, however, and this mixture inhaled, a miliary tuberculosis resulted.

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[1] Allgemeine medicinische Central-Zeitung, 1878, xxxviii. 461.

Tappeiner[1] also produced an artificial tuberculosis by causing dogs to inhale a spray composed of phthisical sputa diluted with water. Other dogs were fed with similar sputa, and were found to have acquired a miliary tuberculosis. He inferred that the human subject may also become tuberculous from the inhalation of particles from phthisical sputa suspended in air. The experiments seem to favor the view of the contagious nature of pulmonary phthisis, and to indicate that it is dangerous for phthisical patients to swallow their own sputa.

At the same meeting Schweninger called attention to the importance of these observations, if the nodules were to be regarded as actual tubercles. He had examined the specimens referred to in the above communications, and was of the opinion that they represented actual tubercles, and were entirely distinct from the appearances described by Friedländer and Wolff. The hereditary character and the contagion of tuberculosis thus received a ready explanation. For the inhalation of air expired from phthisical patients and the use of milk from tuberculous mothers furnished a more satisfactory means for transmitting the tuberculous poison than the view of predisposition or constitution.

Changes in Bone produced by Arsenic. — Rabbits, fowls, and pigs were fed by Gies[2] during a period of nearly four months with small but gradually increasing doses of arsenic. The several animals grew heavier and fatter, and the epiphyseal and periosteal growth of bone became increased in those animals who, during the course of the experiments, were not fully developed. Spongy bone was everywhere replaced by compact bone; the bones of the wrist and the ankle, for instance, having been found to be composed of solid bone. A dense layer of bone was formed beneath the epiphyseal cartilage, as after feeding with phosphorus, and was especially marked at the upper epiphysis of the humerus, and at the lower of the femur. Animals confined in the same pen with those experimented upon showed similar changes of the epiphyseal layer, which fact was attributed by Gies to the absorption of arsenic eliminated from the skin and lungs of their companions. Corresponding alterations were found in animals confined in a cage, beneath the perforated floor of which arsenic was spread.

When adult animals were fed with arsenic the cortical layer of the diaphysis became considerably thickened. More or less pronounced fatty degeneration of the heart, liver, kidneys, and spleen was present, although the general nutrition of the animal was most excellent. Larger doses of arsenic gave rise to the usual phenomena of arsenical poisoning, namely, inflammatory changes in the stomach, extreme hyperæmia of the intestinal mucous membrane, and a very extensive fatty degeneration of the liver, spleen, kidneys, and heart.

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[1] Centralblatt für die medicinischen Wissenschaften, 1878, xxi. 378.

[2] Allgemeine medicinische Central-Zeitung, 1878, xxxix. 481.

The young born from the rabbits were cast dead, yet were remarkable for their size, and showed the beginning of the changes above described. A considerable hypertrophy of the thymus gland was also found.

Fatty Heart. — Leyden [1] makes a communication to the Berlin Medical Society on this subject in connection with the report of a case. He considers that there are three forms of fatty heart: in the first the muscular fibres are degenerated; in the second there is an excessive formation of fat tissue upon the heart; in the third there is an abundant development of fat tissue upon the heart and between its muscular bundles, but occurring in cachectic individuals, whose hearts are small and atrophied, and who have but little fat tissue.

In this last form the fat is to be considered as filling gaps, but not as a cause of disease. Objection is made to the custom of including the first two forms under one head, as is usual in the modern works on diseases of the heart, although it is admitted that fatty degeneration of the heart can only be suspected during life. This suspicion may assume a greater or less degree of probability, but the existence of a fatty heart as a definite disease cannot be certainly diagnosticated.

He reports in detail a case of fatty infiltration of the heart occurring in a corpulent person, who presented during life evidences of a feeble heart. After death both ventricles were found to be dilated, and there was an aneurismal dilatation of the apex. The presence of numerous disseminated small spots, in which the muscular fibres were separated by fat, and consequently atrophied, was considered as a cause for these lesions and for the symptoms. The fatty infiltration was supposed to have disappeared in places, leaving an atrophied portion with thickened interstitial tissue. This relation between the atrophied portion and the development of fat tissue was inferred from the more abundant accumulation of the fat towards the pericardium, and the association of a fatty infiltration of the spaces between the muscular bundles, while the bundles themselves were atrophied.

(*To be concluded.*)

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[1] Berliner klinische Wochenschrift, 1878, xvi. 221.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

A. L. MASON, M. D., SECRETARY.

APRIL 27, 1878. Seventy members were present, the president, DR. HOMANS, in the chair. The records of the last meeting were read and accepted.

Fistula in Ano. — DR. ORDWAY showed some cases of fistula in different stages of treatment and after cure by the application of the sesquicarbonate of potash, and, in support of this method, compared his results with those obtained at the Boston City Hospital during the year 1877.

DR. READ thought with regard to the City Hospital statistics that the result was not the fault of the surgeons, but of the method. He had seen many patients who had been discharged from hospitals who had no control over their sphincters. After middle life the cicatrices were apt to open. Dr. Read had observed that superficial fistulæ got well under all modes of treatment, — the knife, ligature, or caustics. Deep rectal fistulæ, however, which opened high up in the bowel were very different, and Dr. Read was confident that the alkaline caustics, sesquicarbonate of potash, or even potassa fusa, which were said to dissolve the indurated tissue without causing a slough, afforded the best chance of success.

DR. HUNT asked if Dr. Ordway had cut fistulæ.

DR. ORDWAY replied that he had in some thirty cases with the elastic ligature and in other ways. He also said that he had not found it advisable to open ischio-rectal abscesses in an acute stage.

DR. E. W. CUSHING said that the ligature of horse-hair and flax with sulphate of copper had been used in the treatment of fistulæ some hundreds of years ago, and that sesquicarbonate of potash and potassa fusa were not vegetable caustics (as they had been termed by Dr. Ordway) any more than sulphate of copper was.

DR. W. INGALLS said it was by no means fair to bring forward, in this connection, the statistics of the Boston City Hospital, and to use them for comparison. It should be generally known, as it is known by all here present that one of four terms is recorded against the name of a patient at the time of discharge to denote the condition, namely, "well," "relieved," "not relieved," "dead." The word "relieved" is most frequently used, for the reason that a majority of patients prefer to go before a restoration to health is complete, but yet is near at hand; as the word "well" cannot conscientiously be written against such names, we write the word "relieved." Given an equal number of men of physique as good as that of those exhibited, also let them be of equal intelligence, and have as urgent a desire to get well as these must have had, and the statistics of the hospital will not suffer.

Tetanus; Diphtheria; Knots in the Umbilical Cord. — DR. READ reported a case of tetanus following the bite of a dog. The patient, aged forty-one years, was bitten in the right arm over the head of the radius, making a large lacerated and punctured wound; it was cauterized fully, and a poultice wet with laudanum was applied over it. In the course of twenty-four hours, symptoms resembling tetanus made their appearance. At first these were controlled by bromide of potash, thirty grains in fluid extract of scutellaria every two hours. The severity of the symptoms increased, and with the advice of Dr. Cabot the patient was ordered thirty grains of chloral every two hours in addition to the bromide. On the evening of the third day true tetanus came on; the treatment was continued, and ether was ordered *pro re natâ.* The tetanic symptoms with very pronounced opisthotonos continued for thirty-six hours, and then began to subside. The patient, while under the influence of the chloral, suffered from all sorts of hallucinations, — blood spots on the wall, strange faces, etc. He was convalescent in about ten days, and is now entirely well. During one hundred and fourteen hours the patient took seventeen hundred and ten grains of chloral, and at least as much bromide of potassium and ammonium in equal parts.

Dr. H. I. Bowditch inquired with regard to the case what proof there was that the strong cauterization did any good, as the dog was not hydrophobic, and whether it might not have been the cause of the symptoms.

Dr. Read said that he thought not, but in any case he should not feel at liberty to neglect cauterizing when cases of hydrophobia were occurring.

Knots in the Umbilical Cord. — Dr. Read exhibited twelve interesting specimens of knots in the umbilical cord.

Dr. W. L. Richardson asked how long the shortest cord was, saying that the average length was twenty-two inches.

Dr. Read replied that twenty-eight inches was the shortest among these specimens.

Diphtheria. — Dr. Read also reported a case of croupal diphtheria, in which the patient, aged eighteen months, recovered after four days of excessive dyspnœa. The treatment consisted of sulpho. carbolat. sod. twenty grains every three hours; swabbing the throat with sulphurous acid, and later one grain each of hydrarg. submur., ipecac., and sanguinaria, once in three hours. Onion and rye-meal poultices were applied to the chest front and back. The room was kept full of the steam from hot water in which caustic lime was slacked.

Dr. Kinnear propounded a question as to the cause of a second outbreak of diphtheria in a ward of the House of the Good Samaritan by stating that though the most thorough disinfection had been resorted to, the disease reasserted itself about ten days after the ward had been reëntered. The query was whether the first cause of the first outbreak was again acting, or whether a fresh supply of blood poison had arisen from another source.

OPERATIVE SURGERY.[1]

Books on this subject are so numerous that an addition to their number might well be thought superfluous, but a brief examination of the present volume will convince the reader that it has ample reason for existence. In the first place, we find that the author has brought his subject up to the very latest dates: as proof of this we may mention a description of Dr. Bigelow's method of performing rapid lithotrity, with drawings of his instruments; also an account of Volkmann's methods of treating cancer of the rectum, a description of whose operations has appeared only within a few months. In the next place many operations are described in this book which are not to be found in other similar works. Among such are Emmet's method of operating for ruptured perinæum and for laceration of the cervix uteri. In mentioning the devices employed for the relief of varicocele the author has the good sense to point out the uselessness of operative measures for its cure, and frankly expresses his preference for palliative measures. Plastic surgery is well and fully described, and a judicious selection has been made of the more desirable methods. The plates are for the most part very good, and give one a clear idea of the purpose to be accomplished. As might be expected, all parts are not of equal merit, and we notice here and there some deficiencies. For example, the history of operations for cleft palate does not include the work done by some American surgeons, and no account or illustration is given of Suersen's obturator. Usually, however, there is sufficient variety in the descriptions to suit all tastes. The volume is compact, of convenient size, and the type is excellent.

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[1] *A Manual of Operative Surgery.* By Lewis A. Stimson, B. A. (Yale), M. D. With hree hundred and thirty-two Illustrations. Philadelphia: Henry C. Lea. 1878.

HOSPITAL HEATING AND VENTILATING.[1]

The fifth of a valuable series of papers on hospital construction, by Dr. Billings, deals entirely with the difficult matters of heating and ventilating. The problem of ventilating a large hospital, that is, of supplying air in abundance under exceptional as well as under ordinary circumstances, resolves itself naturally into several inquiries, which in the report are answered separately. The character of pure air must be defined from a practical rather than from a theoretical stand-point, and may be assumed to be the best attainable standard of the external atmosphere; hospitals must not be placed, of course, where the air is loaded with impurities. And as it is not possible to drive out the impure air alone, but only after admixture with pure air, it is evident that a great waste must be provided for in all systems of ventilation. Beside the ordinary change of air, too, which will be abundant to remove the usual impurity and foul odors, provision must be made for flushing the wards with a great stream of clean air, especially during the early hours of the day, when the discharges, changing of dressings, etc., give rise to great offensiveness. The innocuousness of carbonic acid alone, in any possible proportion in hospitals, its chief use as an approximate indication of the amount of organic impurity present, and its great diffusiveness, resembling all other gases, so as not to collect or "settle" anywhere in a room, are well stated; and then the standard minimum amount of pure air to be introduced is adopted of one cubic foot per second per bed in the large ordinary wards, one cubic foot and a half for the separate rooms, and two cubic feet or seventy-two hundred cubic feet an hour in the isolation wards, making proper allowances for friction, of course. Recent experience has shown that this amount can be supplied, and that it is none too much.

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[1] *Report on Heating and Ventilation.* Prepared for the Trustees of the Johns Hopkins Hospital, Baltimore, Md. By John S. Billings, Surgeon, United States Army. 1878.

Dr. Billings does not adopt the view of Mr. Briggs and others, that the extreme dryness of the internal air so common in our climate in itself produces uncomfortable sensations and is to a considerable extent injurious, although he admits that the degree of humidity easily obtained in England is all but impracticable here, and that consequently we must maintain higher temperatures. The subject, however, is one in reference to which we are still in need of careful experiments and exact knowledge, before aiming at a definite conclusion. After providing that the hospital wards shall not be contaminated, as is so often the case, by unnecessary impurities emanating from water-closets, etc., the report states the means of ventilation depended upon at different times, more or less conjointly, of course, to be open windows, ridge ventilation, aspiration, with means of supplying moisture in the main duct, and propulsion. Nothing less can be considered satisfactory; and these fill all reasonable requirements so far as our science and money at present allow, whatever the relative humidity, pressure, or temperature of the air may be, and however the wind may blow.

The method of heating preferred is by hot water, and generally by indirect radiation; fire-places and direct radiation are to be also somewhat used. Dr. Billings prefers hot water, with large heating surfaces of low temperature, to steam, as being for the wards less expensive, more easily managed, less noisy, as usually set, and less likely to overheat the rooms. The difficulty of mixing the hot and cold air, with steam heating, has been so well solved at the Boston City Hospital by Dr. Cowles that any objection on that score is withdrawn; the noise and overheating may be obviated with some care and expense, as at the Massachusetts General Hospital. For some of the buildings steam is recommended.

A great part of the value of the report consists in the careful series of observations made at the Barnes Hospital in Washington by Dr. Huntington, and at the City Hospital in Boston by Dr. Cowles. A mass of exact information has thereby been obtained which cannot fail to be of great usefulness to all persons interested in the puzzling problem of heating and ventilating large buildings under all the changing atmospheric conditions of our climate; they reflect great credit, too, upon the two hospitals just named, and upon the medical superintendents, to whose skill and care it is due that such good results as those obtained are possible.

We have rarely seen so much sound sense and useful information so concisely packed in one small, interesting pamphlet. We commend it to the careful study of all persons interested in hospital hygiene. It is to be hoped that the Johns Hopkins Hospital may use its abundant opportunities for scientific inquiry, as Dr. Billings suggests, and give an authoritative solution of many of the problems, economical and sanitary, which at present can be only approximately answered upon insufficient data, and largely by so unsatisfactory a method as balancing opinions. The hospital has already done good service in that direction.

HORSE-BACK RIDING FROM A MEDICAL POINT OF VIEW.[1]

This is a very neat little volume, containing one hundred and two pages, divided into six chapters, with an additional chapter concerning the origin and progress of horse-races. The author is evidently an enthusiast. His little treatise contains a good many remarks on horse-back riding if devoted to physiology, and a good deal of physiology if devoted to horse-back riding, which we are fully persuaded is an admirable form of exercise.

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HEALTH RESORTS IN THE ATLANTIC.[2]

The recent equinoctial gales have doubtless given many a delicate invalid a distaste for ocean travel, but it has also reminded him that the struggle for existence in these wintry latitudes is soon to commence. A perusal of this book will fill his imagination with soothing influences. One can almost feel the balmy air emanating from the sunny pictures of tropical landscapes which are so full of suggestions of a winter of comfort and repose. A careful selection has been made by the author of such islands as are free from visitations of yellow fever or persistent malarial epidemics. "Great care has also been taken to obtain the fullest and most correct sanitary statistics on the subject." The lack hitherto of a suitable guide-book enhances the value of this volume, which is kept in the form in which the articles originally appeared in *Harper's Magazine*, and is consequently interesting to the general reader as well. Although the warmer climates receive the largest share of attention, summer resorts are not omitted, and we find suitable descriptions of the Isles of Shoals, Prince Edward's Island, the Isle of Wight, and such other points in the North Atlantic as are agreeable to pleasure-seekers. All that the traveler wishes to know about the Azores, the Bahamas, Madeira, and the Bermudas is described in a most charming way, and the illustrations are full and of a very high order of merit. The book is undoubtedly of great value to the physician who wishes to become familiar with such health resorts as do not involve a European tour. We hope a similar volume will appear containing a description of the various sanitaria of the southern and western portions of the United States.

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FORD'S QUESTIONS.[3]

We have no doubt that these questions are very convenient for Dr. Ford's pupils when preparing for an examination, but we do not believe that they will be of much value to others. The same might be said of questions founded on even a better course of lectures than these. T. D.

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[1] *Horse-Back Riding from a Medical Point of View.* By Ghislani Durant, M. D., Ph. D., etc., etc. New York: Cassell, Petter and Galpin.

[2] *The Atlantic Islands as Resorts of Health and Pleasure.* By S. G. W. Benjamin. New York: Harper and Brothers. 1878.

[3] *Questions on Anatomy, Histology, and Physiology for the Use of Students.* By C. L. Ford, M. D. Ann Arbor: Courier Steam Printing House. 1878.

ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

As we go to press the above association will have begun its sixth annual meeting. The aim of the association is one which, if properly pursued, may make it of very great service, especially in a country like ours, in all parts of which the old processes of nature and the new complications of modern civilization and industry are constantly being brought into conflict, under conditions more or less strange or disastrous in their influences upon the populations affected by them.

Without any legal control, such as that possessed by the state boards of health, the association may still coördinate the work of these various boards and wield a great moral influence throughout the country.

We wish to draw especial attention to the present meeting of the association, which has been called together by the executive committee at Richmond, Va., and later in the season than usual, that the most effectual investigation into the causes of the great epidemic of yellow fever, into the methods of sanitary control and prevention of that destructive pestilence, and into the means for protecting the public health generally may be best promoted.

The greater part of the meeting will undoubtedly be taken up by the considerations of the report and evidence submitted by the yellow-fever commission, and by the discussion of such additional individual evidence and experience as may be presented.

Some of our readers will be present and take part in the discussions, but it is to the large number who remain at home that we appeal to take that interest in the meeting which the great importance of the subject demands, and to see to it, so far as in them may lie, that the sufferings and losses of this present epidemic may not end, as so many previous ones have done, simply in thankfulness that it is over. Our boasted civilization is a fraud if we cannot protect ourselves against an invasion from without of such enemies, and we are false to it if year after year we permit the manufacture and wholesale distribution within our own borders of these pestilential germs.

This epidemic is estimated to have cost the country at large about $175,000,000, and if we have communities who either can't or won't put themselves in order, it would, as a mere matter of economy, be for the interest of the general government to do it for them. In some way or other it should be done, and that speedily.

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LITHOLAPAXY IN LONDON.

The latest files of English journals contain an interesting account of a recent meeting of the Clinical Society of London, at which Dr. Bigelow, who has just arrived home from a European trip, described his new operation for stone in the bladder. Many of our readers may not be aware that lithotrity has been growing less in favor with the leading English surgeons, who incline more and more to lithotomy. Under these circumstances the favorable reception in that conservative metropolis of Dr. Bigelow's demonstration cannot be other than gratifying to American surgeons, many of whom have already employed this method with most satisfactory results. We may quote here from an article recently contributed to the *New York Record* by Dr. W. H. Van Buren, who says, "Personally, I feel much confidence that Professor Bigelow's novel proposition that lithotrity may be safely accomplished at one sitting will be successfully demonstrated, and that his discovery of the hitherto unrecognized tolerance of the bladder — for it is certain to be regarded as a discovery, in the full sense of the term — will, by its great practical value, modify the future of lithotrity." The following remarks are taken from an editorial in the *Lancet*: —

"The real interest of the evening commenced just before the usual hour for adjournment, when Dr. Bigelow was asked to give his demonstration. His operation is not a new one in principle; it is a development of lithotrity, as at present performed, in conjunction with the use of Clover's syringe. Perceiving that two of the obstacles to the success of lithotrity are the repetition of the "sittings" and the presence of sharp fragments of stone in the bladder, he crushes the stone at one "sitting," or in cases of large calculi in two, and at the time of operation removes all the fragments and débris. He has modified the lithotrite, so that the "catch" is secured by a slight rotation of the wrist, while by lengthening the female and having wedge-like serrations on the male blade he has rendered it impossible to seize the mucous membrane of the bladder, and unlikely that the instrument will become clogged by débris. The instrument, in fact, can do its work quicker than any other, which is a most important consideration when a stone has to be completely crushed at one sitting. The fragments are removed through a tube of larger calibre than is in common use in this country, — No. 31 French, — a size with which Dr. Otis has made us familiar, and Dr. Bigelow prefers a straight tube. The syringe with which the stream of water is forced to and fro is an elastic ball, which is fixed on a small stand, and worked with far greater ease than Clover's. Special precaution is taken not to over-distend a small bladder. The reasoning on which Dr. Bigelow has based this operation is sound, and no one who saw his apparatus can fail to admire the beauty of the means he employs. Thus far the success of the operation has been very good, and the fear that some entertained that the bladder would be injured by the prolonged operation has not been realized. We cannot but think that this development of lithotrity will introduce a new era in the treatment of stone, and we await with considerable interest the results of its adoption by English surgeons."

MEDICAL NOTES.

— Coto bark, a Brazilian product, and its derivatives are said by Wittstein to be remarkably efficacious in various forms of diarrhœa. They are, however, quite expensive. See the *Doctor* for October 1st.

— Austin Flint says codeia in one-grain doses so completely stopped the vomiting and pain in cancer of the pylorus that the patient thought the tumor was decreasing in size.

— Muscular fatigue from prolonged use of the pen may be pleasantly relieved by holding the latter after the manner of phonographers, namely, between the index and second fingers, keeping it in place by means of the top of the thumb. The distal end of the holder should point away from the body. The strokes are reversed, but one can write in this manner for hours without weariness.

— The dean of the University of Tübingen has been insulted by a person in England, who attempted to buy of him diplomas for his clients. The scoundrel was delightfully and publicly snubbed by Dr. Jürgens.

— A recent autopsy upon a newly born child revealed a *descending* colon upon the *right* side.

— We extract this item from the *Medical Times and Gazette:* Dr. N. Roritz, a resident at Nangoja, Japan, has described an execution with the sword which he was specially allowed to witness (*Wiener med. Wochenschrift*, No. 25, 1878). At the moment the head was severed from the body, the branches of the carotid arteries on either side, which were severed above their bifurcation, spirted the blood, without visible pulsation, 2.60 metres or nearly eight feet. As soon, however, as the main body of the blood had been ejected the pulsation became visible, and it continued even until only drops of blood issued, that is, for eleven minutes and a half. The heart's sounds could be detected by means of the stethoscope for nine minutes. During even the tenth minute forty-two pulsations of the carotids could be counted by all present. Immediately after the execution rattling inspiratory sounds were distinctly heard; and they persisted, gradually decreasing in strength, for five minutes and a half. The expiratory draught could still be felt on the moistened skin of Dr. Roritz's arm until the end of the sixth minute. The contents of the stomach were discharged at intervals from the moment of decapitation for about five minutes, the last portion being, as it were, squeezed out as if by a steady peristaltic movement, rather than forcibly ejected. All the muscles of the neck connected with the trunk contracted strongly several times, and twitchings of them were observed for two minutes and a half. The other trunk muscles were not seen to contract. The head could not be examined for twelve minutes, as it had to be washed and exhibited to the judge. It was then cold and pale, and the eyelids were half closed. The corneæ were opaque from old disease, and the reflex irritability of the iris could not be tested. Those parts, however, of the larynx which remained in connection with the head continued to tremble and twitch for quite twenty-three minutes; and it seemed as if irritation of the spinal cord augmented them. There was no doubt that the direct contact of a stick with the larynx made the muscles contract more strongly. A post-mortem examination of the body was refused by the criminal's relatives.

— Notwithstanding the numerous high positions occupied by the late Rokitansky, the income derived from them was small, and he died a poor man. In consideration of his services to science and the state the government continues his pension to the widow, and adds a special donation.

— Mr. Lister has been gazetted surgeon-extraordinary to the queen. The vacancy was created by the death of Mr. Hilton.

NEW YORK.

— Some time since Miss Mary Danser, the only child and heir of a noted New York gambler (deceased), died, and bequeathed to various charitable institutions of the city about three hundred and twenty thousand dollars. The will was contested, but was finally admitted to probate; and the executor has now paid all the bequests. Among them were $20,000 to the Home for Incurables; $20,000 to the New York Society for the Relief of the Ruptured and Crippled; $5000 to the Nursery and Child's Hospital; $5000 to the New York Eye and Ear Infirmary; and $5000 each to the Demilt, Northeastern, Northwestern, Northern, and Eastern dispensaries.

— On the evening of October 31st there was a formal opening of the new Hahnemann Hospital, which has just been erected in the upper part of the city, in the vicinity of the Presbyterian and Mount Sinai (Jewish) hospitals. Only the main building has as yet been put up, but it is proposed to build a wing on either side of it whenever the necessary funds are forthcoming. The portion completed is a very substantial structure of brick, supposed to be planned and fitted up after the most approved methods, and having accommodations for one hundred patients. Its total cost is said to have been the very moderate amount of $75,000, in which it certainly presents a marked contrast to the last building of the kind erected in the city, — the New York Hospital, which, with a capacity of one hundred and fifty beds, cost the snug little sum of a million and a quarter dollars. It has been truthfully remarked that all the patients could be boarded at the Fifth Avenue Hotel for a considerably less rate of expenditure; and a useful lesson in economy can at least be learned from the homœopaths.

— Much interest is felt in the approaching election by the Board of Governors of a surgeon to the Woman's Hospital, to take the place left vacant by the resignation of Dr. Fordyce Barker; and the three names most prominently mentioned in connection with the position are those of Drs. Noeggerath, James B. Hunter, and Charles C. Lee.

In case it should be decided to use both the pavilions of the hospital at the same time, instead of only one, as at present, it is possible that the staff may be increased to six, and then all three would no doubt be made surgeons. The three principal surgeons are now Drs. Thomas Addis Emmet, T. Gaillard Thomas, and Nathan Bozeman; and each of these has under him two assistant visiting surgeons, who serve six months alternately in the hospital wards and in the out-door department.

PHILADELPHIA.

— The attention of the County Medical Society having been again called to the abuse of medical charities, this *odium medicinæ* has been referred for consideration to the standing committee on Hygiene and the Relations of the Profession to the Public.

— At the late meeting of the College of Physicians, Dr. Wm. S. Forbes presented a paper in support of the view that Harvey had discovered the capillary system, in answer to the recent address by Dr. DaCosta, entitled Harvey and his Discovery, in which the opposite view is maintained. The subject is scarcely susceptible of definite settlement in the present state of the question, but the general opinion seems to be that if Harvey clearly understood the capillary circulation he would have immediately recognized the importance of the discovery, and would have described it in unmistakable terms.

CHICAGO.

— Prof. Moses Gunn has been confined to his bed for several days by the results of a poisoning received in an operation through an abrasion of the finger. He is recovering.

— The recent trial of Kennedy, the wife murderer, furnishes a novel medicolegal development. The plea of insanity was entered by the defense. The medical experts (Drs. Lyman and Brower) swore they believed the man then insane, and that in all likelihood he was insane at the time of the homicide. It was in evidence that the defendant had frequently taken spirits of camphor in considerable quantity to drive away, as he said, an evil spirit that dogged him.

The judge charged that if defendant was insane at the time of the homicide he was to be acquitted on that ground, *unless* the insanity was due to the use of alcohol, in which case the verdict must be of murder in the first degree. He did not say drunkenness, which seems not to have been proven, but insanity. The jury were also to state whether the evidence had established the present insanity of the prisoner.

The verdict was that of murder in the first degree, and that the punishment should be hanging; that the defendant at the time of the trial was insane.

It seems that the practice of all the courts has been in such cases to stop all proceedings against a prisoner who at the date of his trial is found insane.

Both the charge of the court and the verdict occasion surprise.

As a sequel the culprit, the next night after his trial, committed suicide in the jail by cutting his throat with a razor he had found in the corridor.

MASSACHUSETTS GENERAL HOSPITAL.

CASES OF DRS. CABOT AND WARREN.

[REPORTED BY J. W. ELLIOT.]

Eight Amputations with Antiseptic Precautions. — CASE I. P. H., a stout Irishman twenty-five years of age, caught his foot between the wheel and body of a "dummy engine." The foot was badly crushed and lacerated from the base of the metatarsal bones to the tip of the toes. The patient being etherized, the metatarsal bones together with the internal and middle cuneiform were removed. A flap was taken from the sole. The operation was done under carbolized spray, according to Lister's method, and a Lister dressing was applied. The vessels were secured with carbolized catgut ligatures. The stitches were silk prepared with carbolized wax. A drainage tube was left in the wound.

There was some slight constitutional disturbance after the operation. The temperature rose at first to 103° F., and fell to normal on the eighth day. Nearly all the flaps sloughed, but the sides of the wound were brought together by carefully arranging the pressure of the dressing. The stump was healed in five weeks, except a small granulating surface, which was quite obstinate on account of the tension of the flaps. The Lister dressing was removed at the end of ten weeks, during which period it had been changed thirteen times, the dressings having remained untouched for five and one half days on an average. The patient was discharged, well, in eleven weeks.

Case II. T. A., a small Englishman thirty-two years old, was run over by a railroad train. The left foot was badly crushed, the tibia and fibula were broken, and the soft parts so lacerated as to require amputation a little above the middle of the leg. The patient being etherized, the leg was amputated with skin flaps, and a Lister dressing applied. The great toe of the right foot was also removed. There was no pain and very slight general disturbance following the operation. The temperature rose to 101° F., and on the fourth day to 102.50° F. The dressing being changed on that day the temperature fell immediately to 100° F., and then gradually to normal, which it reached on the ninth day. Most of the drainage tube was removed at the first dressing. A slough the size of a silver dollar formed on the upper flap, but the bones were easily covered. The Lister dressing was removed in five weeks, having been changed seven times, the average interval being five days. There then remained a small sinus, which healed soon after removing a piece of loose bone. The patient was discharged, well, in eight weeks.

Case III. M. C. is a stout Irishman forty years old. An engine wheel passed over his right foot, crushing it badly. Ether being given, the foot was amputated at the ankle-joint, a flap being taken from the side of the foot. There was more than the usual amount of hæmorrhage. The operation was done according to Lister's method, and a Lister dressing was applied, which was torn off by the patient while coming out of the ether. A light carbolic dressing was left on for the night, and a Lister dressing was subsequently applied, after thorough disinfection of the leg. There was not much general disturbance. The temperature rose to 102.2° F. on the second day, and gradually declined, reaching the normal point on the eighth day. All the flaps sloughed during the first week. During the third week large abscesses formed up the leg. The temperature rose to 104° F. Numerous counter-openings were made and several drainage tubes inserted. The Lister dressing was extended up the leg, and constantly changed under carbolized spray. During the fourth week the patient suffered an attack of erysipelas, the blush extending up the thigh and over part of the body. During the fifth week a solution of one to twenty carbolic acid was used by mistake in the dressing (one to forty solution being generally used). There was some slight constitutional disturbance, together with black urine. From fear of further ill effects from carbolic acid poisoning the antiseptic dressing was removed, and the leg dressed with oakum. There was a gradual improvement, all the abscesses closed, and a granulating surface remained on the end of the stump. The skin of the leg being drawn down by sticking-plaster and a weight over the foot of the bed ("strawberry-box extension"), the sides of the wound contracted and covered the stump. The Lister dressing was changed twelve times in thirty-three days. The average duration of a dressing was less than three days. The patient was discharged at the end of three months with a good stump.

CASE IV. M. L. is a rather feeble American fifty-five years of age, has always been a hard drinker, and formerly attempted suicide while in acute mania. Foot and ankle were badly crushed by a railroad car. When brought to the hospital the patient was drunk and in a feeble condition. Ether being given, the leg was amputated just above the middle. Operation done according to Lister's plan, and a Lister dressing applied. There was absolutely no constitutional disturbance. The temperature never rose above 100° F., and the patient had his usual appetite on the day following the operation. A part of the lower flap sloughed, and later the whole inside of the wound sloughed out. It gradually closed, leaving a good stump.

The Lister dressing was abandoned at the end of seven weeks, having been changed eleven times. Average duration four and one half days. The patient was discharged, well, in eight weeks.

CASE V. B. M., a pale, thin German, evidently consumptive, a bar-tender and a drinking man, aged fifty-two. His right arm was badly crushed by a railroad car. The laceration extended so high that a shoulder amputation seemed unavoidable, but by sawing off the bone just below the capsule of the joint and using some doubtful skin the flaps were brought together, thus leaving the contour of the shoulder. The operation was done according to Lister's system and a Lister dressing applied. There was but little disturbance. The temperature rose to 102° F. on the third day, and returned to the normal point on the seventh day. Nearly all the drainage tube was removed on the second day. There was scarcely any pus in the dressing, which was changed on an average every five days, and was removed in four weeks. The wound healed for the most part by first intention. The patient was discharged in thirty-three days with a small sinus, which, however, soon healed.

CASE VI. P. G. is a healthy American aged thirty years. The leg was crushed by a railroad car. The patient was brought to the hospital ten hours after the injury, during which time he had been etherized and a tourniquet applied to control the hæmorrhage, which was profuse. He was blanched and in a very poor general condition. The leg was tense and swollen. It was amputated at the middle by transfixion, and according to Mr. Lister's method, but the carbolic spray gave out during the operation. A Lister dressing was applied. During the operation the patient became cold and pulseless. He was put to bed with heaters, his feet being raised. Enemas of brandy, etc., were given. Seven hours after the operation the pulse improved a little, and the patient reacted feebly. The temperature rose to 102.5° F. on the fourth day, and reached the normal point on the ninth day. The general condition steadily improved, but a portion of the flaps sloughed. Later a large abscess formed in the calf of the leg, for which a counter-opening was made and a bunch of horse-hair inserted. The horse-hair being gradually removed the cavity closed. The Lister dressing was removed in eighty-four days, having been changed nineteen times. Average duration five and one half days. A granulating surface remained, which healed under extension. A portion of the bones of the stump were removed at a subsequent operation, and the wound healed by first intention.

Case VII. G. P. is a healthy American child five years old. Both legs were run over by a horse-car. The left leg was badly crushed, requiring amputation just above the knee. There was a compound fracture of the right leg in the lower third. This leg having been washed in carbolic acid, a Lister dressing was applied. The leg was then put up in a pillow, with splints outside. The right leg was amputated, and a Lister dressing applied. The temperature rose to 102.2° F. on the second day, and reached normal on the eighth day. There was some sloughing of the flaps. The dressing was changed thirteen times in forty-one days, an average of three days. The compound fracture was found to be closed at the second dressing, no pus having formed. This patient was discharged in forty-one days, with a stump nearly healed.

Case VIII. J. B., aged fifty-six, was born in England, is rather old for his years, and a drinking man. His arm was caught in a sawing machine and drawn in. When first seen his general condition was tolerably good ; the right fore-arm was completely torn off, and the muscles of the upper arm badly mangled and lacerated, the skin being dissected up from the axilla. The arm was amputated at the shoulder-joint, the best skin thereabout being used for flaps. A Lister dressing was applied. The temperature rose to 102.2° F. on the second day, and fell to normal on the fourth day. The drainage tube was removed on the eighth day. Most of the wound healed by first intention, there being scarcely any sloughing. A pocket formed in the axilla, into which several counter-openings were made, and horse-hair drainage established. But this pocket gradually filled, and the Lister dressing was removed in thirty-nine days, during which time it had been changed twelve times. Average length three and one fourth days. The patient discharged, well, in eight weeks.

The above cases, all with extensive lacerations, when it is always doubtful how much tissue is sound, and hence sloughing is often imminent, serve to illustrate how long the Lister dressing may be left unchanged under the most unfavorable circumstances. The dressings were usually stained, and were always renewed on the day following the operation. While sloughing was going on or abscesses were discharging they were changed every two or three days, rarely every day. While the wounds were doing well and the discharge was small they were dressed every five or seven days. The first four cases were all in an open ward together, and all sloughing extensively ; in two of these cases the dressings were removed on an average once in five and one half days, in one once in four and one half, and in another once in three days, and yet there was no bad smell in the ward.

LETTER FROM MEMPHIS.

Mr. Editor, — Official duties required my presence in Memphis just as the late epidemic was abating in violence, though still attended by many of the distressing conditions that have made that city the centre of national interest and sympathy for the last two months. During that time a state of things has prevailed in the unfortunate city of which no description can give a proper conception to the people of our Northern communities, who are exempt from such terrible visitations as Memphis has experienced, and from which may they forever be preserved.

It is not too much to say that a perfectly correct and unembellished description of the scenes enacted here during the height of the epidemic would seem much more appropriate to the domain of sensational fiction than to the serious pages of a medical journal; but the facts that came under my own observation, and those recounted to me on the spot by the principal actors in them, impressed me so strongly that I believe a concise account of the prominent features of the epidemic, and of the work of our medical brethren at Memphis, will not be unsuited to your pages.

In the opinion of the local physicians the outbreak at Memphis resulted from the importation of the disease in the persons and effects of some sick boatmen from New Orleans, landed in violation of the ineffective local quarantine that had been established. Several foci of infection were thus established, from which the disease spread rapidly, and soon after the 1st of August was recognized to be prevailing in an epidemic form. The exodus to the North that annually occurs was greatly augmented; by the middle of August half of the population had fled from the city, and a month later probably not more than sixteen thousand souls out of a population of more than fifty thousand remained.

The local physicians soon recognized their inability to cope with the rapidly increasing number of cases, and an appeal was sent to the unaffected cities of the South for volunteer physicians, and was readily responded to by delegations from Charleston, Savannah, Mobile, Galveston, and towns in the Lower Mississippi Valley, and by an almost equal number from the cities of the Northwest.

The Howard Association was instituted for providing nurses, medicines, and the requirements of the sick-room for the afflicted, and in previous epidemics has accomplished a vast amount of good in this way; it has never before undertaken to furnish medical attendance, but the extraordinary virulence of this epidemic caused such demands to be made upon them that they found it necessary to provide physicians as well.

Dr. R. W. Mitchell, one of the most prominent practitioners of the city, was appointed medical director of the Howard Medical Corps into which the volunteer physicians were organized. The wisdom shown in placing the medical volunteers under the absolute direction of a professional head, to whom they were alone responsible, was equaled by that displayed in the selection of the person for this important duty. The skill and tact shown by Dr. Mitchell in organizing and directing the medical service so as to secure the greatest amount of efficiency, and the determination and good judgment displayed in meeting the numerous trying emergencies that arose, are worthy of the highest commendation.

The total suspension of the river traffic, on which the city mainly depends, the flight of the business classes, and the consequent closure of their establishments, deprived more than ten thousand people of the means of subsistence, and threw them on the care of the charitable societies, who had to provide everything needed, not only for comfort, but to sustain life in the sick and the well. With the liberal contributions that poured in from all parts of the country this would have been a comparatively easy task, but for the complete demoralization and panic which caused the suspension of business of all kinds, so that hardly a drug, grocery, or provision store could be found open in the city. A doctor might write prescriptions, or order stimulants, beef tea, or milk diet, but where could they be obtained? This state of things greatly complicated the duties of the medical corps and interfered with the efficiency of their labors. To meet the necessities of the case the Howard Association established depots where, on requisition of any of their physicians, nurses, food, and other requirements *for the sick* could be obtained, while the Citizens' Relief Committee provided for those not affected. The wards of the city were divided into districts, to each of which a physician was assigned, and a place designated where all orders were to be left and attended to in rotation.

The daily duties of a Howard physician were to leave the hotel where all were quartered immediately after breakfast, and proceed to the point in his district where orders were deposited, and where he not infrequently found twenty or more calls awaiting him. Coming from a house where he had just seen six or eight cases, before reaching another he was frequently besought by some almost crazed parent or child to come immediately to his dying kindred. A known Memphis physician would have his carriage stopped in the street by a group of panic-stricken people begging him to tell them what to do for their friends. In these circumstances it was impossible to write prescriptions, or to give extended directions; he could only say to one do this, to another do that.

On the first assignment of the physicians to their districts their rounds were made on foot, but as the epidemic spread and the number of cases increased this became physically impossible, and a great variety of aids to locomotion were pressed into service; at first the doctors were carried about in springless mule carts, with a negro driver in keeping with his mule, and both poor specimens of the animal creation. Express wagons were gradually substituted for these, and as soon as possible a supply of "buggies" with fair horses was procured from Louisville and Cincinnati. In the almost complete absence of drug, grocery, and provision stores the members of the medical corps had to carry not only their medicines, but all articles immediately required for the comfort of the sick and the subsistence of the few who were well enough to attend them; so that on starting in the morning they added to their medical supplies a liberal quantity of beef essence, tea, sugar, arrowroot, milk, lemons, and ice, which they had to renew several times daily, and frequently they had to add a ham, a bag of flour or bread, a basket of coal, a pair of blankets, or other articles, for the afflicted households they visited. Although some twelve hundred nurses from various parts of the country were employed by the Howards, this number was totally insufficient. Great suffering resulted from want of attendance, and physicians were compelled, in common humanity, to discharge many offices usually performed by the nurse or friends. Nurses frequently remained from thirty-six to forty-eight hours by the bedside of patients without food or rest. In many households every member was stricken down, and not unfrequently the physician had to pay the scant marks of respect that the body of the deceased received before being hurried away to its burial without a friend or attendant. Some idea of the work done by the Howard physicians may be formed from the fact that the daily report showed that many of them visited from one hundred to one hundred and fifty cases daily.

As the fever spread into the surrounding country the same condition of things prevailed as existed in the city, and Memphis was called on for help. Physicians of the corps were detailed for the places requiring their services, and remained while needed, aiding the local practitioners, or replacing them where they had died. Relief trains were sent out to the towns in all directions with physicians, nurses, medicines, and food, and greatly alleviated the prevailing suffering.

The persons remaining in Memphis throughout the epidemic who escaped an attack of the disease might almost be expressed by the figure 0. A census of several districts of the city was carefully taken by direction of Dr. Mitchell, and the returns showed that in the different districts from eighty-five to ninety-eight per cent. of the residents had been affected; these figures seem almost incredible, but I was assured that they were reliable; the rate of mortality will not be far from thirty-three per cent. It was greatly in excess of this in the hospitals and infirmaries, of which several were fitted up in school-houses and public buildings, the deaths in these averaging over fifty per cent.; so that towards the close of the epidemic they were discontinued, and the patients treated at their homes when possible. At the height of the epidemic the deaths ranged from one hundred to one hundred and twenty-five daily, and it seemed as if there were not enough of the living to bury the dead. The bodies of persons who in life had been surrounded with all the comforts of wealth and position were hastily dispatched to the cemetery without a friend or attendant, and dumped beside fifty others, or more, waiting interment. Large numbers were buried in trenches, and Elmwood Cemetery is studded all over with family lots, where five and six freshly made mounds tell an awful tale of suffering and bereavement. One can hardly conceive a sadder sight than the group of thirty-one freshly raised mounds that mark the graves of the volunteer physicians, with those of nearly a hundred nurses just behind them, who fell in the discharge of their duties.

In regard to the character of the physicians composing the Howard Corps it may be said that while a few were undoubtedly attracted to Memphis by the *per diem* paid by the Howard Association, and a few by a desire for notoriety and *éclat*, the majority were influenced by purely philanthropic motives and a wish to serve the afflicted people in their hour of calamity. A volunteer physician on arriving in Memphis was directed to report to Dr. Mitchell. If unacclimated, or if he had not had the fever, the great risk he incurred was pointed out to him, his services were declined, as in time he would only add to the common burden, and he was advised to return home. Many wisely accepted the counsel and did return; some, on their services being declined by the Howards, quietly went to work in the infected districts; the few who displayed this spirit were sought out and added to the Howard Corps, mainly with the view of securing their decent burial when the fate to which they were almost certainly destined should overtake them.

Several physicians from Indiana and Ohio went to Memphis relying implicitly on the theory that yellow fever always attacked its victims at night, and while asleep, and that a proper altitude and quinine were powerful prophylactics; they slept in third or fourth story rooms, took twenty or thirty grains of quinine daily, did not go out after night-fall, and fell victims to their misplaced confidence.

The certainty with which the unacclimated were attacked was appalling. Of twenty-eight physicians who had not had the fever, only one escaped. Of a delegation of eleven nurses from Cincinnati, but one was alive at the end of the epidemic, and was the only one of the number who had had the fever. On the other hand, of four physicians and fifty-four nurses from Charleston, all of whom had suffered from the fever in previous epidemics, not one was attacked in Memphis.

I cannot avoid enlarging on the devotion shown by many of the physicians who went to Memphis with their lives in their hands, and sacrificed them for the relief of the stricken people. It required a much higher order of courage than to risk life on the battle field, where patriotism, the excitement of conflict, and the contagious enthusiasm of masses are a stimulus to noble deeds: these are wanting to the physician who treads wearily along the path marked out by disease and suffering, surrounded by the poisonous breath of the pestilence that carries desolation on every hand; the moanings that ring in his ears are never drowned by shouts of victory and triumph, and he battles with a foe insidious and unseen till the blow is struck that lays low the victim. The horribly depressing influences that surround the physician engaged in a struggle with pestilence can be estimated only by those who have passed through it. W.

SHORT COMMUNICATIONS.

NATIONAL YELLOW-FEVER RELIEF COMMISSION.

Executive Committee: A. R. Shepherd, chairman; William Dickson, secretary; L. J. Davis, treasurer; Arthur MacArthur, George Hill, Jr., Leonard Whitney, John T. Mitchell, A. S. Solomons, Simon Wolf, B. H. Warner, John F. Cook, John M. Woodworth, M. D.

WASHINGTON, D. C., *November* 1, 1878.

To Yellow-Fever Relief Associations, Committees, etc.:

At a meeting of the executive committee of the National Yellow-Fever Relief Commission, held on October 30, 1878, the following resolutions were adopted, and directed to be forwarded to the various relief associations throughout the United States: —

"In prosecuting the duties which have required the attention of this commission, we have witnessed with profound emotion the wide-spread evidences of a noble, tender, practical, humane sympathy. At the cry of the stricken and dying, not only have words of kindness been spoken, but deeds have been done and sacrifices have been made which have embalmed the beneficence in the memory of the age. From all sections of the country the treasures of the people have been willingly and promptly offered, and many, as voluntary victims on the altar of humanity, have fallen before the face of death while giving their personal ministrations for the relief of the suffering. The influence of such noble charity and moral heroism should not be allowed to pass away, leaving no deeper impression than can be made by the daily newspaper record. We deem it to be of untold advantage, not only in demonstrating our common humanity, but in binding more firmly in loving brotherhood the people of our great community of States, that the history of this grand sympathetic movement of the hearts of the people be made a part of the history of the nation, and that the permanent record be scattered widecast over the land. With the view, therefore, of making a full report to Congress at the beginning of its coming session, and of asking that the same be printed in book form for public distribution, it is —

"*Resolved*, That all relief committees and other organizations which have contributed in aid of the yellow-fever sufferers of the South during the present epidemic be requested to communicate to this commission the gross amount they have collected, and in what manner they have disposed of their funds, together with such other information as will give a history of their benevolent work.

"*Resolved*, That a committee of three, of which Surgeon-General Woodworth, of the Marine Hospital Service, shall be chairman, be designated by the chair to prepare and edit this report, and that they be empowered to employ such clerical assistance as may be deemed necessary."

In accordance with the foregoing resolutions, you are requested to fill the appended blank, detach and return it at as early a date as possible to Dr. John M. Woodworth, P. O. box 33, Washington, D. C. In addition to this, such items of information as you may have from newspaper clippings, letters of correspondents, or extracts from letters, which will be of use in making up the full history of this relief work, are respectfully solicited.

JOHN M. WOODWORTH, *Chairman of Committee to edit Report.*

ABSTRACT OF THE BULLETIN OF THE PUBLIC HEALTH.

ISSUED BY THE SURGEON-GENERAL U. S. MARINE HOSPITAL SERVICE, UNDER THE NATIONAL QUARANTINE ACT OF 1878, FOR THE WEEK ENDED NOVEMBER 15TH. No. XIX.

OFFICE SURGEON-GENERAL M. H. S., WASHINGTON, *November* 16, 1878.

NEW ORLEANS, LA. — For the week ended yesterday evening there were 11 deaths from yellow fever. Impossible to procure accurate number of new cases. No new cases or deaths for the past twenty-four hours.

CLINTON, LA. — The first case of yellow fever occurred September 7th. Among the white population there have been 40 cases and 15 deaths; among the colored people 56 cases and no deaths.

MORGAN CITY, LA. — Twelve new cases of yellow fever and one death during the last week.

DELPHI, LA. — The first case of yellow fever occurred in August. Total cases to date 100, deaths 50. Both physicians died early.

MOBILE, ALA. — There were 21 new cases of yellow fever during the past week and eight deaths.

VICKSBURG, MISS. — There were four new cases of yellow fever and three deaths during the past week. For the same period there were eight cases and two deaths in the surrounding country.

PASS CHRISTIAN, MISS. — Three new cases of yellow fever during the last week; no deaths. The last case occurred on the 10th, and the last death on the 3d inst.

CHATTANOOGA, TENN. — Two new cases of yellow fever and two deaths during the past week. Last case and last death occurred on the 10th inst., — both colored.

OSYKA, MISS. — The first case of yellow fever occurred July 31st. Total number of cases to date 227, total deaths 30.

MOSCOW, MISS. — Population 185. First case of yellow fever August 31st, last case November 3d. Total cases 71, deaths 35.

MCCOMB, MISS. — First case of yellow fever September 28th. Total deaths to date 21.

LAKE, MISS. — To November 1st there had been 300 cases of yellow fever and 86 deaths.

CANTON, MISS. — Total cases of yellow fever to November 1st 919, deaths 176.

PORT GIBSON, MISS. — To November 5th there were 655 cases of yellow fever, and 161 deaths.

HAVANA, CUBA. — Sixteen deaths from yellow fever and none from small-pox for the week ended November 9th.

BALTIMORE, MD. — The deaths include six from diphtheria, five from enteric and three from scarlet fever.

BOSTON, MASS. — There were 16 cases of scarlet fever, and three deaths; 16 cases of diphtheria, and eight deaths.

BROOKLYN, N. Y. — For the two weeks ended November 9th there were five cases of enteric fever and two deaths, 41 cases of scarlet fever and two deaths, 81 cases of diphtheria and 36 deaths.

CHARLESTON, S. C. — For the week ended November 9th there were 25 deaths from all causes, including two from enteric fever, and one from diphtheria.

CHICAGO, ILL. — There were 13 deaths from diphtheria, four from scarlet fever, and seven from enteric fever.

NEW YORK CITY. — The deaths include 11 from scarlet fever and 18 from diphtheria.

PHILADELPHIA, PA. — The deaths include 10 from diphtheria, seven from scarlet and nine from enteric fevers.

RICHMOND, VA. — The deaths [include two from scarlet fever and one from diphtheria.

RIO DE JANEIRO, SOUTH AMERICA. — For the two weeks ended October 12th there were 227 deaths from small-pox, three from typhus fever, 10 from enteric fever, four from yellow fever, and 18 reported from "pernicious fever." Deaths from all causes show an average death-rate of 43.5.

GREAT BRITAIN. — In twenty large cities and 'towns of England, having a population of seven millions, the deaths for the week ended October 26th show an annual rate of mortality of 21.6 per 1000 of the population. The deaths include five from small-pox, 187 from scarlet fever, and 71 from other fevers. In Dublin, for the same week, the mortality-rate was 23.5. There were five deaths from small-pox and eight from scarlet fever. In Belfast, for the week ended October 31st, there were nine cases of scarlet fever and one death; three cases of enteric fever, but no deaths.

STOCKHOLM, SWEDEN. — For the week ended October 12th the total mortality shows an average annual rate of 17.3. Enteritis and diarrhœa caused one fifth of the deaths.

CHRISTIANIA, NORWAY. — For the week ended October 19th there were three deaths from diphtheria and one from scarlet fever. The average annual rate of mortality was 13.8 in 1000 of the population.

GERMAN EMPIRE. — During the week ended October 19th there were 5475 births and 3480 deaths in one hundred and forty-nine cities and towns, of 15,000 people and upwards, having an aggregate population of 7,439,708. The average annual death-rate per 1000 of the population was 24.3; the lowest being 11.5, at Potsdam, the highest 37.9, at Augsburg. In Berlin the death-rate was 27. The total deaths include 113 from scarlet fever, 169 from diphtheria and croup, and 70 from enteric fever. There were no deaths from small-pox or typhus fever. The "rinderpest" is reported to be decreasing in some of the provinces of Turkey.

CHINA. — Advices from Shanghai to October 1st report only sporadic cases of Asiatic cholera at that port. Cholera first appeared in China in 1820, having been brought by sea from Siam, and has proved very malignant at times, although at no time ravaging an extensive region of country. Sporadic cases occur at Shanghai in the summer and autumn of almost every year. All persons visiting China and Japan are advised to be revaccinated before going. The universal practice of inoculation with small-pox virus which obtains in those countries accounts for the frequent deaths among foreigners from small-pox. Inoculation does not always protect from subsequent attack. Diphtheria is not common in Shanghai. It is restricted almost wholly to higher latitudes of the empire. Yellow fever is unknown in Eastern China. Typhus fever often prevails, but generally over restricted areas. Leprosy prevails to some extent in the province of Canton, which furnishes nearly all the Chinese emigrants to the United States. The disease was introduced into the Sandwich Islands from China.

SINGAPORE. — The island and port of Singapore are reported free from all epidemic or infectious diseases; advices to September 27th. JOHN M. WOODWORTH,

Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 9, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	448	21.31	23.42	28.71
Philadelphia.	876,118	275	16.32	18.80	21.54
Brooklyn.	549,438	219	19.78	21.51	25.50
Chicago.	460,000	119	13.45	17.83	22.39
Boston.	375,476	119	16.48	20.10	24.34
Providence.	100,000	42	21.84	18.81	19.20
Lowell.	55,798	14	13.05	19.09	22.50
Worcester.	54,937	6	5.68	20.06	22.30
Cambridge.	53,547	25	24.27	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	7	10.25	20.42	19.67
Springfield.	33,981	7	10.72	16.02	19.77
Salem.	27,140	7	13.41	20.38	21.15

* * *

The late Dr. George H. Gay. — The following is an extract from the records of a meeting of the medical board of the Massachusetts General Hospital, held November 15th: —

"This being the first meeting since the death of Dr. George H. Gay, for twenty-three years one of the hospital surgeons, it was unanimously voted that, in remembrance of their late associate, the medical board enter upon its records a respectful and hearty recognition of the loss which it has sustained. Dr. Gay was educated under more than usually favorable influences. His natural surgical instincts matured early. His interest in the study of surgery never decreased. In his relations with patients his kindness and tact were guided by a judgment which was always sober, discreet, and conservative. The absence of his social and friendly personal influence is felt by his colleagues, as also of his skill and services by the hospital to which he faithfully devoted himself for a period of so many years."

A Loan Collection of Medical Portraits is being made for the dedication of the new hall of the Medical Library Association, 19 Boylston Place, on December 3d. Any one owning a portrait of any former medical practitioner in the State will confer a favor by communicating the fact at once to James R. Chadwick, M. D., *Librarian.*

Books and Pamphlets Received. — Prescription and Case Record, with a Silicate Record Card. Published by Joel A. Miner, Ann Arbor, Michigan. Price 75 cents. Order by mail.

Art Anatomy. By A. J. Howe, M. D.

Sugar Frauds. Ways and Means Committee Investigation (Hon. Fernando Wood, chairman) at the New York Custom House. Henry A. Brown. 1878.

A Paper on Intra-Laryngeal Growths. By Clinton Wagner, M. D. (Ohio Medical Journal.) Columbus. 1878.

Clinical Lectures on Surgery delivered at Starling Medical College. By J. H. Pooley, M. D., Professor of Surgery. Columbus. 1878.

Report on Malpractice. A paper read before the Maine Medical Association June 12, 1878. By Eugene F. Sanger, A. M., M. D., of Bangor.

Practical Surgery, including Surgical Dressings, Bandaging, Ligations, and Amputations. By J. Ewing Mears, M. D. With two hundred and twenty-seven Illustrations. Philadelphia: Lindsay and Blakiston. 1878. (From A. Williams & Co.)

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LECTURES.

CLINICAL LECTURE ON EPIDIDYMITIS AND HYDROCELE ASSOCIATED WITH URETHRAL STRICTURE.[1]

BY FESSENDEN N. OTIS, M. D.,

Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York.

Gentlemen, — The patient before you I find presenting difficulties which it appears to me will form an interesting and instructive study. His name is John C., and his age is twenty-two years. He has, as you see, an enlarged scrotum, evidently due to distention of both scrotal cavities. That on the right is filled with a solid tumor about the size of a goose's egg, while that on the left, about the same size, is somewhat soft and evidently fluctuating. He has recently entered this hospital, and has been under treatment for syphilitic orchitis and hydrocele. His history, as bearing upon his present condition, is briefly as follows: He has had three distinct attacks of gonorrhœa : the first nine years ago, the second two years ago, and the third in March last. The first and second attacks were apparently due to contagion. The last is alleged to have supervened upon a painless gleety discharge (to which he had long been subject), and occurred at least a month subsequent to any acknowledged venereal exposure. Shortly after recovery from the second attack, — some two years since, — the patient noticed an enlargement of what was supposed to be his left testicle. This was without pain. It gave annoyance only on account of its size, and continuing for about two months disappeared spontaneously. About a year ago, however, the swelling returned. It was then ascertained to be caused by a hydrocele, and was tapped. About five months ago the right testicle became swollen and inflamed, causing great pain; so much so that the patient was obliged to take to his bed, and there remain for nearly three months previous to his entrance into the hospital. At this time the soreness and redness had quite disappeared, leaving it a solid, insensitive tumor.

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[1] Delivered at Charity Hospital, Blackwell's Island, and reported by P. Brynberg Porter, M. D.

At the time of his first attack of gonorrhœa he had a sore on his penis, which was accompanied or followed by a suppurating bubo in the right groin. During the gonorrhœal attack of two years since he also had sores on the penis, but no bubo. In neither instance were the sores on the penis followed by an eruption on the body, or sores in the mouth or throat, or by falling of the hair. The patient states that he has suffered occasionally from rheumatism, and that in February last his right knee, arm, and hand were swollen and very painful, but without redness.

On a careful examination of the patient's body no mark of the preexistence of any ulcerative lesion is detected, except one slightly depressed cicatrix on the external aspect of the left leg, near the junction of its middle and lower thirds. This cicatrix, as you can observe, is about the size of a dime, and of a dull reddish or rather yellowish color. Concerning its cause or the date of its establishment the patient is quite uncertain.

With this somewhat complicated history, given by the patient, let us proceed to its analysis, and see how far we can coincide with the alleged explanation of his troubles. The account of his early gonorrhœal difficulty is clear, and may, I think, be accepted without question. This of itself being a purely local trouble cannot convey any constitutional disease. It may, however, establish a permanent point of irritation in the urethra. The sores on the penis which accompanied this gonorrhœa were associated with a suppurating inguinal bubo. This by itself is *prima facie* evidence of their non-syphilitic origin. Except under the influence of a scrofulous dyscrasia or prolonged local irritation syphilitic buboes do not suppurate. Ricord long ago made this observation, and urged it as a strong diagnostic point. For my own part I always accept the *suppuration* of a venereal bubo as a strong proof against its syphilitic origin. This, however, does not militate against the possible acquirement of syphilis through the same contact which gave rise to the chancroid. I would say, then, that suppurating venereal bubo, *per se*, is evidence of chancroidal action, and that the sore preceding it is on that account presumably a simple chancroid. If, however, as is exceptionally the case, the sore preceding a suppurating bubo is followed by syphilis, then we know that both the chancroid and the syphilitic disease have been associated in the same sore, or that syphilis has originated in a concomitant lesion.

The second attack of gonorrhœa was also complicated with one or more sores on the penis, but without the accompaniment of the suppurating bubo. From the time of the first sores nine years ago, however, there has been not a single recognized evidence of constitutional syphilis up to the occurrence of the scrotal enlargement, unless we accept the cicatrix on the leg or the temporary rheumatic attacks to which he has referred.

In regard to the cicatrix there is nothing to suggest a syphilitic origin, except, perhaps, its yellowish color. Sores from ordinary causes in this locality are often pigmented to a greater extent. His rheumatic attacks have left no trace; the last, the only one of which he has any definite remembrance, was associated with his alleged attack of gonorrhœa last spring, and this chiefly affected the right knee and wrist. As far as this suggests any specific cause it is a gonorrhœal rather than a syphilitic one, the knee and wrist being so frequently affected in gonorrhœal rheumatism that its localization in these points may be considered significant. It appears to me, then, that we may safely eliminate the syphilitic element from this case as far as any constitutional evidence is concerned. Now, in regard to the local trouble, first, of the left pouch of the scrotum: the patient's attention was first attracted to it by the size of the swelling, — not by the receipt of any local injury, not by pain or by weight, — simply by increased size of the scrotum. We may at once eliminate syphilitic sarcocele, which always attracts attention by its weight before reaching any considerable size; also, we can throw out the idea of acute epididymitis, which is always ushered in with pain. That it is not a scrotal hernia we are assured by the absence of any impulse through the tumor when the patient coughs. That it is not a hæmatocele we suspect first by its lack of weight. But we will make the crucial test by the application of light. The tissues of the scrotum, unless changed by long-continued inflammatory action, are semilucent. The serum of a hydrocele is transparent. In a hæmatocele, or effusion of blood into the scrotal cavity, the tumor is necessarily opaque. Now, placing the patient on a chair, and raising the scrotum so that it shall intervene between your eye and the sunlight or (as here) a lighted candle, shutting out the light behind by means of an ordinary cylindrical speculum, or by rolling up a bit of thick paper so as to make a tube four or five inches long, we look through the tube pressed against the tumor. We can distinctly appreciate the transmission of light through the tumor. A luminous glow is present, such as that (though in somewhat less degree) which you observe through the fingers when held between the eye and any strong light. Pass the hand back and forth between the candle and the tumor, and you will prove that the light is transmitted through the tumor. It is, then, a hydrocele. The bulk of a tumor connected with a syphilitic sarcocele is not unfrequently due to an associated hydrocele. In such case the condition of the testicle, including the epididymis, cannot be made out with any certainty until the fluid contents of the tunica vaginalis are withdrawn. In the present instance we shall proceed to effect this by puncture with an ordinary trocar (aspiration through a small perforated needle is a more elegant and less painful method). The tumor is largely grasped from below and behind, making the coverings on its anterior aspect more tense. Then, avoiding the large superficial veins which you see here and there, plunge in the trocar at the most salient point with a quick, sharp stroke, thus, to the depth of about an inch. In this way you avoid the chance of pushing the wall of the tunica vaginalis before the instrument, and enter with certainty into its cavity. The withdrawal of the trocar is followed, as you see, by the clear, straw-colored fluid characteristic of the contents of a hydrocele. We are now able to examine the testicle and its appendages. The former is found to be free from undue sensibility and of normal size. The epididymis is somewhat enlarged, but presents no evidence of disease. In short, we have here a classical idiopathic hydrocele, an affection which I believe of much less frequent occurrence than is usually accepted. Nevertheless, the ordinary causes, such as local injury, cold, previous inflammation of contiguous parts, general hydræmia, syphilitic or tubercular disease, are apparently absent. One cause of hydrocele, however, and a most important one, I have not mentioned, and this is prolonged irritation in the urethral canal caused by stricture. Sir Everard Home, in his work on the Urethra, published in about the year 1800, alludes to this as a cause of hydrocele, and cites several cases in point. Since then, however, this fact has been in great measure lost sight of, but I have observed it so often that in cases of hydrocele I invariably examine the urethra for stricture, and in the absence of other causes rarely fail to find it. There is no history of stricture in this case nor any complaint on the part of the patient (such as trouble in urinating or localized pain, etc.) which would lead to the suspicion of it, but the repeated attacks of gonorrhœa, and especially the last, which is alleged to have occurred independently of any venereal exposure, point directly to the probability of stricture. We will now proceed to make an examination of the urethra with the view of determining the presence or absence of stricture. In order to do this we must first ascertain, as far as possible, the normal calibre of the canal presenting. No urethrameter being at hand, this may be estimated on the basis of its proportionate relation to the size of the penis. The penis here measures 3+ inches in circumference. The average relation being 1 to 3½, reduced to millimetres we then have a circumference of 30 mm. as the size of the normal urethra in this case. In proceeding with the examination it will be seen first that the urethral orifice is greatly contracted, measuring as thus tested by the bulbous sound only 18 mm. The value of this contraction (accepting the normal calibre as 30) is 12 mm.; quite sufficient, in my opinion, to be considered a possible cause of reflex trouble which should produce a disturbance of the functions of the tunica vaginalis testis; quite sufficient to disturb the equilibrium between its secreting and absorbent vessels, and in this way result in an accumulation of the fluid, the natural secretion of the part thus constituting a hydrocele. This I have seen in repeated instances, and where the accumulation of fluid is small — say from one to two ounces — have known it to disappear promptly on a restoration of the meatus to the calibre of the normal urethra. In this case, however, we have something more than a contracted urethral orifice. The exploring bulb — 18 mm. in circumference — is abruptly arrested at 2½ inches. We substitute bulbous sounds of smaller and smaller size, until one is found going through the narrowed canal ; this one, passing reluctantly through as you observed, indicates the size of the stricture. It is 14 mm. in circumference, and, as you can also see, the bulb moves freely up and down the urethra behind the stricture. Now as we attempt to withdraw it the shoulder of the bulb is arrested at the posterior border of the obstruction. You will remember that the larger instruments were arrested at 2½ inches from the orifice. Marking the depth of the posterior border of the stricture with your finger on the shaft of the bulbous sound, gently withdraw it, and you will find the difference between this measurement and that down to the anterior face of the contraction (2½ inches) to represent the breadth of the stricture. It is there found to be a trifle over a quarter of an inch in breadth. Here, then, we demonstrate the presence of stricture sufficient to establish a permanent point of irritation in the urethra. Such strictures are capable of producing recurring epididymitis of every grade, from that which causes slight swelling and tenderness to the most acute form of the trouble, and this, too, sometimes without the presence of any perceptible urethral discharge. My own observation leads me to believe that the lighter forms of trouble, such as chronic sensitiveness and occasional slight swelling, also various grades of hydrocele, are the result of reflex irritation transmitted from the point of stricture, and that the attacks of acute epididymitis are due to the extension of the inflammation, the urethritis associated with stricture, along the track of the vas deferens, as in epididymitis accompanying ordinary gonorrhœa.

The hydrocele in the present instance came on without apparent cause, lasted for a few weeks, and passed off without treatment. The cause, then, must have been removed, or toleration was acquired which finally enabled the absorbents to take up the excess of fluid. How, then, was the trouble again reëstablished ? This certainly points to a permanent and increasing source of irritation as a cause of the hydrocele, such as we might find in a urethral stricture.

Passing now to the opposite side, we find a solid tumor representing the testicle and epididymis. The history of its accession is distinctly inflammatory. The patient's attention was first called to the trouble not by the swelling nor by the weight, but by the pain and tenderness of the part. The history is one of an ordinary acute epididymitis prolonged, with great suffering, confining the patient to his bed for several months.

There is nothing about this to suggest syphilitic sarcocele, or any other form of trouble except an epididymitis, which from some unusual aggravation has gone on to involve the structure of the testicle, — a rare occurrence, — orchitis by extension from epididymitis. We naturally inquire in what this unusual aggravation consisted. In answer, I will point to the continued source of irritation and inflammation afforded by the continued presence of extensive urethral stricture.

The indications for treatment in this case seem to me to be plain, namely, to clear out the urethral obstructions, and thus restore the urethra to its normal calibre throughout. It is not probable that this will suffice to prevent reaccumulation of fluid in the tunica vaginalis. The chronic nature of the difficulty in the present instance will most likely necessitate the usual method of treatment in such cases, namely, injection of tincture of iodine or its equivalent.

The absorption of the products of inflammation in the right testis and its appendages will be favored by the removal of the urethral strictures, but here also additional treatment will be advisable. Efficient support is the first requirement. Equable pressure by strapping will be of service, and, as the tumor is quite free from tenderness, will be well borne. This for a few days, then continuous and prolonged hot fomentations and anointing with a ten per cent. solution of the oleate of mercury for a few days, then resume the treatment by pressure ; thus alternating until the tumor becomes too small to be strapped, when support and inunction may be continued as long as is required.

Our failure to detect any special dyscrasia in this case, and the good general condition of the patient, appear to me to contraindicate the use of any constitutional remedies.

THYMOL, THE NEW ANTISEPTIC.

BY ROBERT WHITE, JR., M. D.

This new therapeutic agent is receiving marked attention among the British and Continental surgeons, and bids fair to supplant carbolic acid in the supremacy it has so long maintained as the most available surgical antiseptic that we possess, despite the marked disadvantages frequently attending its use.

Thymol or thymic acid is the essential principle of the oil of thyme, obtained from the common garden thyme (thymus vulgaris) and allied plants, and very plentifully from a species of East Indian phycotis. It is an oxidized principle ($C_{10}H_{14}O$), and separates from the hydro-carbon elements of the essential oil by freezing, or by the addition of a caustic alkali, from which it is in turn precipitated. It may be prepared directly from the plant by distillation. By the alkali method an uncrystallizable liquid is produced; by the other processes white, rhombic, and needle-shaped prisms with a strong odor of thyme result.

Thymol was discovered in the beginning of the eighteenth century, but attracted no attention as a therapeutic agent until within ten years. Bouillon and Paquet pointed out its antiputrescent qualities, and used it for deodorizing unhealthy wounds. Its true antiseptic action, in the present acceptance of the term, was first demonstrated by Lewin, of Berlin; in an extended series of experiments he showed that it arrested saccharine fermentation, powerfully retarded lactic fermentation, checked fermentation in the stomach, and prevented decomposition. He also first demonstrated that while it is a more powerful antiseptic than carbolic acid, it is much less poisonous to the system, and is quite free from local irritant action. From the experiments of Lewin and Bucholz it appears that thymol has a much greater destructive power over the low forms of life that attend putrefaction than carbolic acid, the ratio being as ten to one. Its power in this respect has been attested by careful and extended observations. Its efficiency as an antiseptic being admitted, it remains to inquire into its action on the organism as a whole, and on the tissues to which it may be applied, as compared with the effects of carbolic acid, with reference to its employment for surgical purposes. The disadvantages of the latter may be briefly stated to be its offensive odor, its tendency to irritate the skin when long employed, the occasional constitutional toxic effects, and most particularly its direct irritant action on wounded tissues, by which adhesion is prevented, the secretions greatly increased, and the frequent renewal of the dressings required. In the use of carbolic acid in any form as a surgical dressing these effects result in a greater or less degree, and interfere with the healing of the wound, but they become especially apparent in the practice of antiseptic surgery as taught by Lister, and it is in the practice of this system of surgery that the advantages of thymol over the agent heretofore employed will be most marked. Here the action of the spray and carbolic acid ablutions during the operation and dressing is followed by a very free sero-sanguineous discharge, which usually saturates the dressings by the end of twenty-four hours; so that Mr. Lister insists, as a fundamental rule, that the first dressings should always be changed at the end of that time to prevent putrefaction from the abundant discharge coming in contact with the air. As the effects of the action of the carbolic acid on the wound pass off, the discharge lessens, and the intervals between the dressings are increased to two, four, six, or eight days. It is safe to say that were it not for the irritant action of the carbolic acid on the tissues the longer intervals might be employed from the first. Then the carbolic gauze which constitutes the principal dressing would, if allowed to come in contact with the edges or surface of the wound, exercise a directly injurious effect on it from the irritant action of the antiseptic with which it is charged; therefore a "protective" of oiled silk is required between the gauze and the wound, thus tending toward what every surgeon seeks to avoid, complication. Despite all precautions it too often becomes evident that the carbolic acid in the dressings is exercising an irritant action on the wound; at times even producing constitutional symptoms.

Volkmann and Ranke, of Halle, who have for five years most conscientiously employed Lister's method, with very satisfactory results (their late report showing seventy-five cases of compound fracture with recovery in every instance), have recently substituted the use of thymol for carbolic acid in the dressings, but without other essential change in Lister's method. Each one thousand parts of the gauze was charged with a mixture of five hundred parts of spermaceti, fifty of resin, and sixteen of thymol, the resin and spermaceti being used to prevent the too rapid evaporation of the volatile antiseptic. This thymol gauze is soft and pliable, and on account of the bland character of the antiseptic may be applied directly to the wound without the intervention of the "protective" required for the more irritative carbolic gauze; it thus readily absorbs the discharges, "soaking them up from the surface of the wound like a sponge." A loose mass of the gauze is usually placed on the wound for this purpose, and covered in by the outer dressing arranged as usual in eight layers, with gutta-percha or waterproof cloth between the two outer layers to prevent the discharge from penetrating directly to the air, and the whole well secured by bandages prepared in the same manner as the gauze. From a well-applied dressing the antiseptic evaporates so slowly that at the end of a week it still smells strongly enough of the thymol to prevent putrefaction so long as the discharge does not penetrate through the bandages. On the slightest appearance of this on any part of the surface the dressing should be renewed. A recent report by Dr. Ranke, the assistant of Volkmann, gives the results of the treatment of fifty-nine cases by what may be called the Lister-thymol system. The operations comprise an excision of the hip, of the knee for scrofulous caries, of the shoulder; four excisions of the elbow; secondary amputation of the thigh; three amputations of the leg; amputation of the arm, of the mamma, and of the foot; gunshot wound of knee; two radical operations for hernia; seven radical operations for hydrocele, — certainly a severe enough series of injuries fairly to test any system of treatment. In five per cent. of these the discharge was purulent, in twenty per cent. it was serous, and the remaining three fourths healed without suppuration or secretion of any kind; "that is to say, on the removal of the bandages the skin of the parts was found to be absolutely dry, and not a drop of discharge could be squeezed from the dressings."

The advantages that thymol possesses over carbolic acid for surgical purposes appear to be briefly as follows: the offensive odor, the pulmonary irritation, the anæsthesia and desquamation of the skin of the hands which follow the constant use of carbolic acid, and are a source of great annoyance to some surgeons, are wholly avoided by the use of thymol, and render its employment much more agreeable; on the patient its use is never attended with constitutional symptoms; in proper dilution it does not produce the various forms of dermatitis that follow the prolonged application of carbolic acid to the skin, but on the contrary, when these do exist, they subside on substitution of the thymol dressing for that which produced them; it causes no irritation in the edges of the wound; and the amount of discharge from the wounded tissues is very much less than under similar dressings charged with carbolic acid. This last point is one of the very greatest importance, and it is hardly necessary to dwell on the advantages that a wound healing with a minimum of discharge, requiring change of dressings only every four, six, or eight days, possesses over one attended with free secretion, even if it be not purulent, with its accompaniments of tension, necessary provision for drainage, and frequent disturbance of the part for the change of dressings required by the abundant secretion; this, too, at the most critical period of the healing process, when the element of rest is such an essential one. In most of Volkmann's cases the dressings were not changed until the time for the removal of the sutures, or until the bandages were stained by the approach of the secretion in those cases in which it occurred.

Volkmann has employed thymol freely, and with most satisfactory results, in a one per cent. solution for the constant irrigation of wounds, where carbolic acid could not have been employed on account of its irritant action.

Spencer Wells has used it in a series of ovariotomy operations, and recognizes its advantages over the usual antiseptic; the dressings in his cases were allowed to remain without change until the removal of the sutures was required.

It must be observed that in its employment under the Lister system, while the details required for the prevention of the irritant action of the antiseptic on the wound are dispensed with, those required for guarding against putrefaction cannot be abated in the slightest degree.

Thymol is but sparingly soluble in water, but freely so in alcohol, ether, vaseline, and most fatty substances, and in the caustic alkalies. The latter dissolve the largest amount of thymol, and permit of its ready dilution. One gramme of thymol is soluble in one thousand grammes of warm water, and Spencer Wells uses this solution for spray, irrigation, sponges, instruments, and all other surgical antiseptic purposes, while Volkmann prefers a mixture of thymol one gramme, glycerine twenty grammes, alcohol ten grammes, water one thousand grammes. The addition of the small amount of alcohol and glycerine can have but little influence on the character of the solution. Two tenths gramme to four tenths gramme of thymol to thirty grammes of vaseline well rubbed in makes a good ointment that has been used with advantage in many skin affections in England, and is free from the disagreeable odor and irritant effects attending the use of ointments made with carbolic acid and the various products of tar, and in a more diluted form is an excellent surgical dressing. A solution of one gramme caustic soda or potash in six grammes of water takes up three grammes of thymol, and forms a convenient basis for dilution to any extent.

The present cost of thymol in this country is unreasonably high and unsettled, ranging from one dollar to two dollars per ounce, according to the demand and the conscience of the druggist. In England it costs about four times as much as carbolic acid, weight for weight, and can be furnished at the same relative cost here. At first glance its use appears to be far more expensive than that of carbolic acid, but as a solution of the latter requires one part to forty or one to twenty, while a thymol solution of one to one thousand is equally efficacious, and as the absence of discharge under the thymol dressings requires their less frequent renewal, the difference in cost is decidedly in favor of the thymol.

From the preceding observations it becomes apparent that while thymol is fully as efficient in its antiseptic action as carbolic, acid it has the great advantage of causing a much less amount of irritation, and consequently of interfering less with the rapidity of healing in wounds protected by it.

A CASE OF STRANGULATED HERNIA, WITH REMARKS.[1]

BY C. N. CHAMBERLAIN, M. D., LAWRENCE, MASS.

THE subject of the following history was a tall and rather spare-built man, a farmer, about sixty years of age. Twenty years ago a small hernial tumor appeared in the right inguinal region, for which he wore a truss during the succeeding three or four years. At the end of this period he discarded the truss, and the tumor became fixed in the inguinal canal, never thereafter being wholly reducible. In June, 1875, he suffered an attack of acute inflammation in the tumor, which was removed by topical applications. On June 16, 1876, he was attacked in a similar way, and, obtaining no relief from the measures previously used, he called in medical aid. Five unsuccessful attempts at taxis were made during the following twenty-four hours, aided by cold applications. The last effort was made while the patient was under the influence of ether, and was *prolonged nearly or quite two hours.* The usual symptoms accompanying strangulated hernia were present, namely, pain, tenderness, vomiting, and debility. These symptoms increased during the two following days, no further attempts at reduction, meanwhile, being made.

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[1] An abstract of a paper read before the Massachusetts Medical Society, June 12, 1878, and recommended for publication in the JOURNAL.

The writer first saw the case at seven A. M., June 20th, nearly four days after the advent of the first signs of strangulation. The patient presented the following symptoms: great physical prostration, mental hebetude, hiccough, regurgitation of yellow offensive fluid; skin cold and dark, covered with a clammy perspiration; pulse rapid, feeble, fluttering, and intermittent, the heart's pulsations irregular and tumultuous, showing signs of valvular disease.

The tumor was of the size of a hen's egg, somewhat flattened, slightly resonant, not very painful or tender, the skin covering it being rather dark, but showing no marked hyperæmia. On the whole, the aspect of the case could hardly have been more unpromising.

In view of the fact that the tumor had been for a long time irreducible, and, besides, that repeated and prolonged efforts at reduction had been made by the attending physicians, while nearly four days had elapsed since the onset of the symptoms, further efforts by taxis were deemed inadmissible. Even herniotomy afforded feeble hope of rescuing the patient from his perilous condition; but, being the only resource remaining, it was speedily resorted to, although with little expectation that the patient would survive the operation. If he should pass this ordeal successfully, recovery with a permanent artificial anus offered the most favorable result that could be reasonably anticipated.

The operation was performed under ether. On opening the sac to examine into the condition of the bowel, an ounce or more of dark-colored serum flowed out. The involved portion of ileum was of a dark-purple color, infiltrated with blood. It proved to be an oblique hernia, the two rings being nearly opposite each other, as often occurs in old cases of oblique irreducible hernia. The chief stricture was at the external ring, and was divided, as was also a slighter one at the internal ring. Adhesions existed which were, for the most part, left untouched, as the viability of the bowel was thought to be doubtful.

The patient rallied as well as could be expected, and presented on the following day a favorable appearance. Henceforward the *general* symptoms improved pretty steadily until his recovery. The progress of the local changes only are herein recorded. Three days after the operation the coil of intestine was found to be distended with gas, and gangrenous. On the fifth day the whole of it appeared to be in a state of sphacelation. On the seventh and ninth days considerable portions of it were removed with scissors, all the fæcal matters being discharged through the opening. It was estimated that between four and five inches of the intestine, apparently in its entire circumference, were destroyed. An oval pad was applied over the wound to control and regulate the outflow of the fæcal discharges. On the twenty-third day it was observed that the discharge through the wound was diminishing, and that the contents of the bowel had resumed their natural course through the lower intestine, to be discharged per anum. The wound rapidly cicatrized, and on the thirty-first day had become reduced to a fistulous opening, which was practically closed on the fortieth day. On the fifty-sixth day there was hardly any appearance of a tumor. From that time he has had very little trouble at the seat of the disease, and he performs the lighter operations of farming without difficulty.

The above case is reported in order to place on record a history which, although by no means unique in its character, must be regarded as quite remarkable when we consider the success which attended the efforts of nature for the repair of an accident involving the destruction of so large an amount of the intestinal tube.

The mechanism by which it is possible that the cure in the above-related case may have been effected is shown in a case reported by Scarpa, and quoted by Teale in his Treatise on Hernia, page 164. In this instance " a long loop of gangrenous ileum " was cut away after the stricture had been divided. The fæces escaped from the wound until the fourteenth day, when they began to pass in part by the anus. An accident interfered with the steady progress of the case, but notwithstanding this the wound was practically closed on the forty-second day. Nine months later " he was attacked with severe pain in the bowels, after having eaten immoderately of cray-fish, imperfectly cleansed of their shells, and in a short time died." A post-mortem examination showed that "*the two divided ends of the intestine had united at an acute angle opposite the abdominal ring.* The angle of union was firm and compact, and still more so from the omentum being placed over the part and adherent to it." The peritonæum, which had previously formed the hernial sac, had " become adherent to the sound portion of the intestinal tube, and extended like a *membranous funnel* from the cavity of the abdomen through the aponeurotic ring into the fistulous tube which opened externally at the groin." " Therefore it was not difficult to comprehend that the alimentary matters had been poured from the superior orifice of the intestine, first into the membranous funnel formed by the remains of the neck of the hernial sac, then from this, by a half circle, into the inferior orifice of the intestine."

Scarpa had met with a similar arrangement of the parts in a case of gangrenous femoral hernia. Mr. Travers has also shown by experiment that " the peritoneal surface is essential to the restoration of an intestine, of which a part has been disorganized by stricture."

Instances of the spontaneous cure of gangrenous hernia, where only a small portion of the wall of the intestine has sloughed, are not so rare as to give occasion for comment. But when an entire section of the tube, or even a very large area of its walls, has been separated, while the continuity of the intestinal canal has been restored and the external wound closed, the event may be regarded as of sufficient interest to justify its preservation in the annals of surgery as an illustration of the recuperative powers of nature. Strangulated hernia is confessedly a grave accident, and when we consider the frequency of its occurrence and its fatality, it may properly be regarded as one of the most important accidents which appeal to the surgeon for relief. The ratio of mortality which follows it, notwithstanding all the resources which art has employed to reduce it, still remains exceptionally large, and renders it justly one of the opprobria of surgery.

A hundred years ago Mr. Hey lost three cases out of five upon which he operated, and Dr. Hamilton makes the humiliating confession that "the mortality remains about the same at the present time." An examination of the results of foreign surgery shows that the ratio of mortality after herniotomy has varied but little from fifty per cent. Such a mortality as this is, in the language of Professor Gross, "truly appalling," and its causes should engage the serious attention of all thoughtful surgeons. It may be asserted as a general fact that it cannot to any great extent be attributable to unforeseen accidents attending or following the operation. Fatal hæmorrhage is extremely rare, and death from "shock" is, latterly at least, almost unknown. Pyæmia and erysipelas are not of frequent occurrence, nor is peritonitis, resulting exclusively from the operation. Neither can a large number of deaths be attributed to a want of skill in the operators, for the great ratio of fatality is not confined to surgeons of limited experience and dexterity. While each of these causes may be held responsible for a small proportion of the deaths, it may be safely affirmed that all of them combined have contributed less to the aggregate mortality than have these two generally coincident causes, namely, *the improper use of the taxis*, *and the undue postponement of the operation.* The concurrent testimony of many of our best teachers confirms this statement, while some of them have employed the most emphatic language in condemnation of this culpable practice. Although the truth of this affirmation is generally admitted, the want of a *practical* recognition of it is the excuse and justification for briefly adverting to it.

The limited space allotted to this abstract forbids any extended reference to approved authorities in proof of the preëminent influence of the above-mentioned causes upon the mortality of hernia. Attention is particularly directed to the emphatic utterances of Teale, Hamilton, Gross, Druitt, Bryant, Birkett, and others in reference to this important subject. Indeed, the observation and possibly the experience of many of the members of this society can sufficiently attest the correctness of this conclusion.

The immediate ill effects which are liable to ensue from rude taxis and too great delay before operating are so obvious that simple allusion to some of the most important of them will suffice for our purpose.

(1.) Peritonitis. This may be contributive to or consequent upon the strangulation. In either case the change from simple inflammation to utter ruin of the entire structure of the bowel proceeds with so great rapidity that early liberation can alone prevent disastrous results.

Prolonged or severe manipulation of the tumor under these circumstances cannot fail to multiply the dangers and difficulties which already surround the case, and leads not infrequently to complete sphacelation of the entire coil of the intestine.

(2.) Reduction "*en masse*" sometimes results from too forcible taxis by incautious operators, especially when the patients are under the influence of ether. Dupuytren saw eight or ten cases, Luke five cases, while Teale reports twenty-two cases.

(3.) Rupture of the bowel, whenever its structure has been weakened by inflammation or a protracted interruption of its circulation, is peculiarly liable to follow rude efforts at taxis.

(4.) Other accidents, fortunately more rare, sometimes occur, namely, tearing off the whole ring and reducing it with the herniated bowel, the stricture unrelieved, or the folding the intestine upon itself and forcing it into an artificial pocket.

(5.) Finally, fatal exhaustion of the vital powers of the patient is a not infrequent result of prolonged and severe taxis, with its accompaniments of pain and delay.

With such a formidable list of possible injuries and dangers confronting the surgeon it behooves him to move upon a serious case of strangulated hernia with the utmost caution, yet not with timidity, and with a thorough knowledge of the ground he is to tread. Hence the importance of establishing a correct diagnosis in regard to the nature of the hernia and the state of its structures cannot be insisted upon with too much emphasis. . . . .

In the employment of taxis the wisdom of making available all the conditions, preliminary and adjuvant, which experience has shown to be useful is sufficiently obvious. Of these, first in importance is *etherization.* An invaluable means of removing excessive muscular tension, it may become a dangerous ally in the hands of an over-zealous operator.

Aspiration is another valuable aid in those cases in which the coil of intestine is distended with air or fluid, or where there is an obstructive amount of serum in the sac. In France this procedure has yielded remarkable results. It is scarcely needful to refer to the value of opium, general and local baths, and the application of the ice-bag as methods of preparation of the patient for the use of taxis.

Quality of Taxis. While no definite rule in regard to the *degree of force* which may be permissible can be laid down, there can be no doubt concerning the wisdom of the following precept, namely, that it should be *gentle*, *uniform*, *steady*, *and persistent*. . . . .

Duration of Taxis. The practice of modern surgeons is inclined to a much briefer limitation than was formerly permitted. The "prolonged taxis" of the French writers authorized a continuous manipulation for thirty and even sixty minutes. Recent English and American surgeons, in view of the disastrous results which have followed "*prolonged* taxis," are disposed to limit it to not more than fifteen minutes, while Bryant deems even this length of time unsafe if the patient is under chloroform. It is manifest that no absolute rule can be established to guide the operator, and in this regard the operation must be left to the judgment of the surgeon, who, if he be wise, will promptly cease his manipulations "after reasonable hope of its success has passed, and when its maintenance must inevitably tend to serious aggravation of the crescent inflammatory action." (Miller.)

Should the early attempts to reduce the hernia by taxis prove futile, it should be adopted as a regular canon of practice to proceed at once to the operation of herniotomy, unless there exist reasons of the most unequivocal character for expecting benefit and additional safety to the patient as the consequences of delay.

The indefinite postponing of the operation, with a vague hope that something will "turn up" to relieve the patient and the surgeon from an unfortunate predicament, with no intelligent and well-grounded reasons for such delay, and more especially if, during the interval, frequent, fitful, and fruitless manipulations of the tumor are made, is a most pernicious practice which is fraught with evil, and only evil.

It may be safely affirmed with regard to the operation of herniotomy that it is not essentially one of great hazard to the patient. Were it habitually resorted to in the early stage of the strangulation, while all the tissues are in a viable condition and the vitality of the patient unimpaired, the mortality following the operation would doubtless be very small. It is a mistake, and often a fatal one, to look upon it as the last resource, to be reluctantly employed only after all known expedients which may have proved effective in other and different conditions have been exhausted in the treatment of the case, while the strangulation, wherein the danger exists, is allowed to continue, unobstructed, its mischievous force.

We close with the remark that it is not assumed that this paper contains any novel or unrecognized views, or that it has any other *raison d'être* than as a feeble protest against a practice confessedly too common, and as an attempt to encourage, wherever it may be needed, a more attentive observation of the results of clinical experience, which teach the early recourse to operative interference in all cases where taxis, judiciously applied, has not resulted in prompt relief to the patient.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.[1]

BY R. H. FITZ, M. D.

PATHOLOGICAL ANATOMY.

Fatty Degeneration of the Liver. — In examining a number of human livers, Von Platen [2] observed that granules of fat were present between the hepatic cells, and he endeavored to learn where this fat was and whether such a distribution was connected with fatty infiltration or fatty degeneration. Iodoform was used as a means of producing a fatty degeneration of the liver, and the examination of the organ from four to six hours after the poisoning had taken place showed that the familiar stellate corpuscles lying between the capillaries and liver cells were filled with fat granules. When, however, the process was more advanced, when more fat was present in the liver, although in certain cases these stellate corpuscles at the periphery of the lobules were filled with fat, yet in most instances they were no longer evident. The peripheral liver cells were usually free from fat, then a general, diffuse opacity was apparent, which gradually became less, being replaced by collections of large and small fat drops. Eventually only large drops were present, though occasionally a band of finely granular fat was seen to extend over a liver cell. When the atrophied livers of animals who had hungered for some time were examined, it was evident that there were many fat drops between, not within, the liver cells. These either formed long lines parallel with the bundles of hepatic cells or ran over the latter. Other lines of fat granules were met with which ran over the liver cells, but showed no connection with lines outside them.

In the examination of atrophied specimens it became evident that many fat granules, which apparently belonged to the liver cells, formed agglomerations, separated from each other by intervening spaces which were traversed by numerous connecting threads of fat granules. The general appearance was that of a net-work formed by these lines, the granules being more abundant at the points of connection.

The appearances of beginning fatty degeneration thus suggested that a large part of the granular fat did not belong to the liver cells, but to cells within the intercellular spaces. When, however, the fat drops were of the size of red blood-corpuscles, the relation of the parts became obscured by the swelling which took place. It could not, then, be stated that all the fat was accumulated in the intercellular tissue, and in the examination of individual cells it was impossible to determine whether portions of the projections of the stellate corpuscles might not be adherent.

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[1] Concluded from page 656.

[2] Virchow's Archiv, lxxiv. 268.

In fatty infiltration of the liver resulting from feeding with oil, the stellate corpuscles were alone or predominantly affected, and the microscopical appearances were like those of beginning degeneration.

Ponfick has shown that these stellate corpuscles receive insoluble pigment introduced into the circulating blood, and they also take in pigment which has been formed in the body. Von Platen conceives that in fatty degeneration of the liver, likewise, these cells absorb material transuded from the blood, which material is either fat or one capable of being subsequently converted into fat. It seemed unlikely that the protoplasm of the cells should have become converted into fat at the very outset. The early general diffusion of the process opposed this idea, and there appeared no reason for a nutritive disturbance in these corpuscles rather than in the liver cells. The enlargement of the organ and its increase in weight without evident increase in the quantity of blood favor the view of the reception of material from without.

Origin of Renal Casts and Parenchymatous Inflammation. — In order to determine the relation between parenchymatous and interstitial inflammation of the kidney, and to prove that there is a primary, independent parenchymatous inflammation, Aufrecht[1] made a series of experiments upon rabbits. One ureter was tied, it being thought that a parenchymatous inflammation would first take place, being followed later by a diffuse interstitial inflammation. The experiments showed that these views were correct, and rendered it possible to obtain some accurate knowledge concerning the origin of fibrinous casts.

That the latter might form it was found necessary that the epithelial lining of the tubules should be intact. The cells might be opaque and their outline indistinct; still, as such, they were not found to become a part of the casts. The latter could not arise from an exudation from the blood, as they were found at a time when no alterations could be detected in the interstitial tissue or in the blood-vessels. It was also thought impossible that fluid should escape from the blood into the renal tubules, owing to the pressure within the ureters and pelvis, which was sufficient to cause the latter to be considerably dilated. Finally, when disease of the interstitial tissue took place casts were not found.

It was consequently inferred that fibrinous casts are formed from a secretion produced by the inflamed epithelium, which escapes as large round drops, and afterwards coalesces into a shape corresponding with that of the uriniferous tubules. This inference was based upon the presence of casts composed of irregular pieces separated by fine bright lines, and the occurrence of clear globular masses resembling the pale casts and projecting from epithelial cells.

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[1] Centralblatt fur die medicinischen Wissenschaften, 1878, xix. 33.

The presence of urinary casts in connection with simultaneous disease of the epithelium, and the absence of any trace of interstitial inflammation, is regarded as an important justification of the occurrence of a primary parenchymatous inflammation. Aufrecht considers this affection as of a regenerative character, and states that he finds evidence of a regenerative parenchymatous inflammation of muscular fibre, of the nerves, and of the liver. He is further convinced that diffuse interstitial nephritis and hepatitis are always the result of a parenchymatous affection of the organs concerned.

Amyloid Kidney without Albuminuria. — In a communication to the Berlin Medical Society relating to the pathology of diseases of the kidney, Litten [1] mentioned a case of extensive amyloid degeneration of the kidneys and other organs, although for a period of three months no albumen had been found in the urine. The microscopic examination of the injected kidney showed that the coloring matter had not entered the vessels of the Malpighian bodies, owing to their extreme degeneration, while the interstitial capillaries, the afferent arteries, and the vasa recta were but moderately degenerated.

He concluded that where albuminuria was present in amyloid disease of the kidney the albumen must enter the urine through the Malpighian bodies, supposing them to be permeable. He finds in the experiments of Hermann the most satisfactory explanation of this absence of albuminuria in his case. This physiologist observed that when the renal artery was temporarily ligated, albuminuria followed. According to Cohnheim, a temporary obstruction of the arterial supply of blood to a part causes changes in the vessel wall which may be considered as favoring the escape of albumen. Litten ascertained from injections that the interstitial capillaries received blood soon after ligature of the renal artery and the cutting off the supply of blood to the glomeruli.

He concluded that only in the latter is the alteration of the vessel wall previously referred to likely to take place, as oxygenated blood still flowed through the interstitial capillaries. He states that this explanation does not apply to all cases of albuminuria, since in venous obstruction the venous capillaries are chiefly concerned, and serum-albumen transudes through them.

Hypertrophied Heart and Chronic Nephritis. — The pathology of the kidneys and of the urine is considered by Senator.[2] He first calls attention to the fact that chronic interstitial nephritis is not a sharply defined affection, and he refers to the difficulties in the way of making an exact differential diagnosis. The slower the progress, the less pronounced are the symptoms of a parenchymatous affection. It is also possible that parenchymatous processes may lead to interstitial changes, and the latter may gradually advance while the former retrograde. The necessary result is that during the course of a chronic parenchymatous nephritis an interval may take place during which the symptoms are more or less like those of a primary indurated kidney, while at the autopsy both parenchymatous and interstitial changes are found. There are also numerous transitional forms which during a certain period do not correspond with the type of the one or of the other process, but present single features of both and lack others, and are to be diagnosticated as cases of chronic diffuse nephritis.

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[1] Berliner klinische Wochenschrift, 1878, xxx. 452.

[2] Virchow's Archiv, lxxiii. 1 and 313.

The relation of hypertrophy of the heart to the nephritis is considered at length. In chronic interstitial nephritis the cardiac hypertrophy predominates over the dilatation, while the reverse is the case in chronic parenchymatous nephritis. A moderate or slight hypertrophy without dilatation is not to be directly proven, but only suspected; and a simple hypertrophy of the heart may exist at the beginning of a chronic interstitial nephritis, and may be present for some time during its course, without being made evident by physical signs. It is therefore not to be determined clinically when in such cases the cardiac hypertrophy begins, even that it may not have existed at the time when symptoms of a disturbed renal function were first manifested.

In explaining the origin of cardiac hypertrophy in connection with chronic nephritis, the effect of an abnormal composition of the blood is considered.

In chronic interstitial nephritis there is no retention of urinary constituents in the blood, while the hypertrophy is frequent and either simple or concentric. In chronic parenchymatous nephritis there is an altered composition of the blood, but cardiac hypertrophy is rarely met with, and when present is of the eccentric variety. In chronic interstitial nephritis a thickening of the small vessels and cardiac hypertrophy are very common, while in chronic parenchymatous nephritis the former is almost universally absent, whether the heart is hypertrophied or not. It therefore follows that the cardiac hypertrophies in the different forms of renal inflammation are of unlike nature and have different causes.

Those taking place in chronic parenchymatous nephritis form a minority, and are to be regarded as secondary and as due to obstruction to the emptying of the left ventricle. This obstruction must be owing to an increased aortic resistance, as all other evident mechanical causes for obstruction may be excluded.

The cause of this increased resistance is to be sought for either in an extensive affection of the remote branches producing obstruction, or in an alteration of the composition of the blood caused by the renal disease. Evidence of the former has never been found, while with reference to the latter it is known that when the blood is loaded with urea the aortic pressure is increased. Other chronic affections of the urinary apparatus which give rise to similar conditions would be likely to occasion a cardiac hypertrophy, such as may be found in connection with the disturbances due to urinary calculi and in individuals with but one kidney.

In chronic interstitial nephritis the cardiac hypertrophy is apparently simple or concentric. It is possible that dilatation is present, though apparently absent from the excessive increase in thickness of the wall of the heart, which may become all the more striking from the existence of post-mortem rigidity. If dilatation were present, an increased aortic resistance is essential for the hypertrophy, and this is most probably present. This increased tension must be due to a more or less extensive thickening of the walls of the smallest vessels. Such has actually been found, though doubts exist as to its nature, and until its nature has been discovered its cause must be obscure.

If the hypertrophy of the heart is simple from the outset, it is primary, and must be due to increased function and nutrition. A source for such might be found in an abnormal composition of the blood. Simple hypertrophy can produce no increase in the blood pressure, but as the latter is present in chronic interstitial nephritis, there must be in addition to the hypertrophy another element — the increased thickening of the arterial walls — as an explanation for the increased blood pressure.

In conclusion, whether the hypertrophy is apparently or really simple, the thickening of the arterial branches is of essential and decided importance for the occurrence of the increased aortic tension in cirrhosis of the kidneys. In the one case the thickening acts as a cause; in the other it follows as the effect or coördinate action of a third factor, — the abnormal composition of the blood. The renal affection cannot be regarded as the cause of the increased blood-pressure and of the alteration in the circulatory system, but only as the result or accompaniment of them.

THE AMERICAN PUBLIC HEALTH ASSOCIATION AT RICHMOND.

THE YELLOW FEVER CONFERENCE.

At the sixth annual meeting of the American Public Health Association in Mozart Hall, on the evening of November 19th, there were, beside a large popular audience, somewhat over a hundred members present, representing state and city boards of health from Wisconsin to Massachusetts and Louisiana, the United States army, navy, and marine hospital service, as well as quarantine officers, engineers, and physicians occupying prominent places in colleges, medical societies, and other scientific bodies. The welcome address by Governor Holliday was warm, and full of enthusiasm and a patriotic feeling which rose far above any sectional limitations. After a few very well-put introductory remarks by Dr. Cabell, Dr. Elisha Harris, of New York, as president of the association, read the address of the evening, which, it is needless to say, was filled with elaborately prepared statements, propositions, and conclusions, although unfortunately not so effectively delivered as to command that attention of the audience which the subject deserved. Surgeon-General Woodworth, of the marine hospital service, then made a few remarks in explanation of the origin of the commission to investigate, under his direction, the recent epidemic of yellow fever. The first donation of money was made by Miss Thompson, of New York; the rest has been subscribed by merchants of New York. The commission was organized October 1st, and consists of Dr. E. Lloyd Howard, of Baltimore, president of the Maryland State Board of Health and professor of chemistry in Baltimore; Professor S. M. Bemiss, editor of the *New Orleans Medical and Surgical Journal;* and Dr. Jerome Cochran, quarantine officer at Mobile. Colonel Hardee, a civil engineer in New Orleans, was later added to the commission. They now report that the fever visited eighty cities and villages, attacking one hundred thousand people, with a loss of twenty thousand lives.

Hon. Dr. Steiner's few words, giving a clear review of the work and duty of the association, were followed by the welcome announcement that the real labors of the session would at last begin on the following morning in the presentation and discussion of the report of the yellow fever commission, and of papers on the same subject, to be read by those who have had experience during the last epidemic.

Some of the members would have been glad to hear less of the "bloody scythe" and the "great tragedy of the exotic enemy;" many thought more of exact, scientific work than of appealing for the prayers of the people; and not a few were so exacting as to want a better reason for the exemption of Nashville than that it was spared by a kind Providence.

The second session began November 20th, nominally at ten o'clock, but actually much later, as the executive committee were overburdened with work in making their arrangements. Many of the papers to be read, indeed, were not sent in until the time of meeting, instead of six weeks before, as is required by the constitution, so that they could not be properly sifted before being placed upon the daily programme; but, thanks to an admirable sub-committee of Drs. Cabell, Turner, and C. B. White, that was not so fatal a source of embarrassment as might naturally have been expected. The day was occupied with reports in regard to individual towns examined by the commission, and with a general report by their chairman. The method of inquiry was to visit as many places as possible in the short time of twenty days, each one taking an independent route, and rarely spending more than one day in any given place. In this way a number of interesting accounts were prepared, but nothing possessing the interest or value of a minute scientific inquiry. The points for investigation were not the same in the different places, and the descriptions of the invasion of yellow fever were simply short *currente calamo* sketches, prepared, for the most part, in the hurry of working in the day-time and traveling at night by three most industrious men, assisted by the local health boards and physicians. Of course, little has thus far been added to our knowledge of the disease.

So far as can be determined, it appears that in no place where yellow fever became epidemic this year was there an effectual quarantine; in some places where there was a rigid quarantine, the disease failed to appear. There is evidently abundant evidence that, in time of epidemic, all means of transporting the infecting material should be prevented; it certainly is to be hoped that the excellent opportunity now present will be utilized to settle all possible dispute in that matter. New Orleans was evidently the focus from which yellow fever was distributed in the United States, not in that "wave-like" manner so often spoken of in connection with epidemics, but very irregularly, first far, then near, just as the steamboats and railroads had stopping-places for depositing the clothing or goods that had been exposed to infection. The first cases imported appeared in New Orleans in the latter part of May; the first case originating in New Orleans was said to have been observed in July, — a fact which, if true, apparently verifies Pettenkofer's theory that some time is required to develop the specific poison in every epidemic locality. Unfortunately, in nearly if not quite all the towns, either the first cases of yellow fever were not recognized, or there was an attempt to conceal their true character. Indeed, we have no satisfactory explanation of the exact way in which the fever appeared in any one of the places visited. In all there is the same story of filth! filth! filth! In one case an exposed cemetery was the source of a disgusting stink; in all the drainage is very bad. The common privy, as a rule, is used, often moved about from place to place, as one site after another gets filth-laden, and the excrement is deposited either on the surface of the ground or in shallow, loose-walled pits which are emptied only at long intervals. The universal contamination of the soil of course causes a pollution of the wells, and there is abundant evidence that filth passes through the ordinary brick wall in the ground, although it is commonly relied upon to protect cistern-stored drinking-water. A few towns apparently pleased themselves with the idea that they were doing really efficient work in cleaning up the surface of the ground, and in removing those grosser forms of filth which were obvious to the eye and the nose. But of course that was a comparatively small matter, even if important to a great degree, for filth which has been saturating the soil for years cannot be got out of the way in a few months. The verdict of the health officers and physicians is apparently very decided against the wisdom of placing much reliance upon any of the so-called disinfectants.

The epidemic has been especially severe and fatal in some of the smaller towns, some of which were evidently invaded through the means of the railroads, and in them the opportunities for a careful investigation are most excellent. Indeed, the material is so abundant that it will be a lasting disgrace to us if we do not add something of permanent value to our knowledge of a disease which, in some cases this year, has attacked nearly every unprotected person remaining within the area invaded by it. Neither the country nor the American Public Health Association can be congratulated upon the methods of inquiry which have been adopted in investigating this year's epidemic, nor upon the results which have been got. That our government is utterly unprovided with the means of carefully examining *all* epidemics, and of making some sort of reasonable effort to prevent an outbreak so disgraceful to modern sanitary science as this which has just occurred, should very seriously impress every thoughtful man.

The work of the executive committee for the remaining days was very much facilitated by the appointment of seven committees to act in concert with them, and to whom were referred the duties of considering the report of the commission, Dr. Bemiss's papers, Dr. Cochran's papers, Dr. Howard's papers, Colonel Hardee's report, Dr. Harris's address, and the final resolutions of the association. The deliberations of these committees will probably determine to a great extent the character of the resolutions adopted by the association, and upon them will depend, to a great extent, the action to be recommended to Congress. It is certainly to be hoped that the system of investigation to complete the work of the commission and the thoroughness of their work will be such as to bring the largest results, and to settle many questions which are now to many people matters of opinion and subjects for dispute.

(*To be concluded.*)

THE BOSTON MEDICAL LIBRARY ASSOCIATION.

This association, incorporated under the laws of the State, has for three years maintained a reading-room well stocked with current medical periodicals, and has been diligently collecting a medical library of reference. Few, even of those familiar with its history, have realized that the collection of books made by this association already numbers about ten thousand volumes, thus rendering it one of the largest medical libraries in the country. It is exceeded only by the National Medical Library in Washington (forty-two thousand volumes), the College of Physicians (twenty thousand five hundred) and the Pennsylvania Hospital (thirteen thousand) in Philadelphia; possibly by the Public Library of Boston (ten thousand one hundred and thirty-three) and the New York Hospital (ten thousand). This surprising result, achieved without the aid of a fund, but merely by the fees of membership and occasional voluntary subscriptions, has fully demonstrated the fact that the association filled a want urgently felt by the medical community. As the accumulation of books was found last spring to have far exceeded the capacity of the rooms then occupied, the association appealed to the liberality of the profession and the public, and obtained a large sum of money. With this it has purchased the house No. 19 Boylston Place, and completely remodeled it so as to provide several pleasant reading-rooms on the second and third stories, and upon the ground-floor a hall, sixty by twenty-seven feet, which the association hopes will be rented for the use of all the medical societies of the city. The building is intended to be the headquarters of all the medical interests of the State, to be the daily resort of its members in the city, and of all physicians from a distance who may be visiting Boston. We understand that a free circulating library is to be at once instituted from the duplicates now on hand, the use of which may ultimately be extended to every physician in the State. Aid will also be given to the members of the profession in any of the larger towns of the State who manifest a desire to form a branch library. A registry for nurses is to be established at the building, whereby any one seeking a nurse may learn by a glance at the register which nurses are disengaged.

In another column will be found the announcement of the exercises to take place at the formal dedication of the new building and hall. An address from Dr. O. W. Holmes, the president of the association, will insure a good attendance, while the names of the other participants are a guarantee that the interest of the occasion will not be allowed to flag. A loan collection of over forty portraits of deceased physicians will be exhibited in the hall on that evening, and will remain on free exhibition to the profession and the public during the rest of the week.

AN OUTRAGEOUS SUIT FOR MALPRACTICE.

We publish in our present number an abstract of the evidence in a recent trial for malpractice in the adjoining city of Cambridge, in which the jury found the defendant liable in the sum of $4916.67. We feel it our duty to draw especial attention to this case as one of the most flagrant and successful among those too frequent attempts to impose upon a benevolent and conscientious profession.

We are glad to hear that there will probably be a new trial, for from all we have been able to learn we believe there is little doubt that the plaintiff hardly merits our sympathies; and although the charge of the judge was fair and impartial, the verdict returned by the jury was, in our opinion, nothing short of plundering under the forms of law. In this opinion we believe all candid and competent readers will concur.

We have been pleased to see a very concise and pertinent statement of the important points in the case in a communication to one of the local papers.

It is often difficult for medical men themselves to judge of the wisdom of the treatment of a case which they have not seen, and it must be much more so for the laity. In the present instance an emotional jury did not even require positive proof of the existence of relaxation of the pelvic ligaments; but had such proof been forthcoming we should still be very far from having evidence of an absence of reasonable or ordinary care or skill.

Physicians and corporations are too often regarded as fair game by the impecunious clients of desperate lawyers. This method of gaining a support must be classed with the more recent, though no more unrighteous, devices with which the public has of late become so familiar.

The strength of corporations may be regarded as sufficient protection to them, but the physician, who may at any time be brought to the verge of ruin, requires greater security against imposition than the State has yet seen fit to offer him. This is the more evident when we remember that it is generally the honorable, conscientious, educated practitioner who is the victim of these attempts, and with whom the law is the most exacting.

MEDORA E. WHITE vs. HIRAM L. CHASE.

This was an action to recover ten thousand dollars as damages for alleged neglect on the part of the attending physician, by which the plaintiff suffered from relaxation of the pelvic ligaments.

At the trial, which took place at the supreme judicial court in East Cambridge, Endicott judge, the plaintiff testified that she was taken in labor on the morning of the 14th of May, 1875. There were with her her mother-in-law, her aunt, and another woman. As she grew very sick they became alarmed, and about four P. M. sent for a physician. That Dr. Chase came, gave her ether, and delivered her with instruments. That the doctor visited her the three following days, and afterwards two or three times a week for two months. That she told him her bones moved when she turned in bed, but that he paid no attention to her complaints, saying these pains were common, and would pass off as she gained her strength. That her aunt left on the fifth day; in what capacity she acted, was unable to say; did n't know whether she was a midwife or not. Similar statements were also made by the mother and the other woman, who also swore that she went for Dr. Chase on the 12th or 14th day of July, 1875; that when he visited her at that time she heard Mrs. White complain of her bones moving.

The plaintiff also testified that she was and always had been in good health previous to her confinement. That she went to Bangor in August, 1875, staying four weeks. That in September she called on Dr. Wyman, who told her what he thought might be the trouble, but would give no opinion without an examination; that she never made any arrangement with him for that purpose. That the last of October she was attended by Dr. Webber, who advised her to wear a bandage and keep quiet. That in November she taught as a substitute in school (going up two flights of stairs twice a day), against Dr. Webber's advice.

In the summer of 1876 she called on Dr. Chase and stated her case; that soon after she wrote him a note, and as he paid no attention she again called on him, when he shut the door in her face. On her first visit she rode in the cars; on her second visit she pushed her baby in its carriage to and from his house. She also testified that she did not use a crutch until June, 1877. That seven weeks before this trial she had been delivered of another child.

Dr. Chase's bill was introduced in court amounting to twenty-five dollars.[1]

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[1] The fee of the physicians of Cambridge is twenty dollars for an obstetric case, with four subsequent visits; two dollars for ordinary visits.

The defendant stated that he was a graduate of the Harvard Medical School, and had been in practice thirty-two years. That he was called to the woman on the afternoon of the 14th of May, 1875; found her under the care of a midwife, who said the child was coming wrong. The woman was very much exhausted, her condition being such that immediate delivery was imperative; administered ether, applied forceps, and delivered her without the slightest injury to the mother or child. Visited her on the 15th, 16th, 17th, 19th, and 22d; as there were no untoward symptoms, dismissed the case.

Was called on the 2d of July; wished to know if it was advisable to go into the country, as she did not gain strength as she desired; complained of pain in the hypogastric and sacral regions, and of leucorrhœa. Advised her going. Saw her again on the 4th, when she said she felt better; on the 5th carried her some medicine to take away, when she said she was going the next day. These dates the doctor swore to from his book of original entry, — his visiting list.

He also swore that during his attendance she made only the usual complaints of women after parturition, and never, at any time, spoke of the movement of the bones; at his visit in July she walked upright, but slowly, as a weak person would.

On the 31st of July, 1875, the husband called and paid his bill; made no complaint at that time, and nothing was heard from the woman until June, 1876, when she called, saying "that she had relaxation of the hip-joints; that she had consulted three of the best physicians of Cambridge, who all said it was the fault of the attending physician." Refused to give their names. "That something had got to be done about it, or a suit would be commenced; that her husband had a friend who was willing to give him money for that purpose." A few days after the husband called, and was told that their demand for money would not be acceded to; that if a suit were commenced it would be defended; that he would not be bought off.

(A suit was commenced in April, 1877. At the October term of the court, no application for a jury trial having been made, the case came before the judge, when the plaintiff became nonsuit. Another suit was, however, commenced in February, 1878, in order that it might be brought before a jury; these last circumstances were not allowed to be made known in court.)

Dr. A. C. Webber, called by the plaintiff, testified that he attended the woman the last of October, 1875; that she appeared to have relaxation of the pelvic ligaments; that in November he abandoned her case, because she refused to obey his directions; that in June, 1876, she called at his office for a certificate of her condition; that she came in limping most painfully; as he refused to give a certificate such as she desired, she went out walking in a very different manner.

Dr. Gilman Kimball, of Lowell, called by the plaintiff, testified that he could discover no mobility of the pelvis whatever.

Dr. H. G. Clark, of Boston, called by plaintiff, did discover mobility, and thought the woman would never be any better.

Dr. Stephen W. Driver of Cambridge, called by defense, testified that he had had two cases of this lesion; one recovered, the other did not. That he was called to see the child of the plaintiff in August, 1875. After prescribing for the child the woman consulted him about herself, saying that she had pain in her back and lower part of her bowels; that he had no suspicion from her complaints or from her manner of walking that she had relaxation of the pelvic ligaments; thought she might have subinvolution; proposed an examination, which she refused. Also testified that he had frequently seen her on the street, walking and pushing her baby carriage; that when she thought she was not under observation she walked as well as any one.

Dr. Morrill Wyman: Plaintiff called at his office, saying she had relaxation of the pelvic ligaments, and wished an opinion. She was told that a careful examination at her house would be required before any satisfactory opinion could be given; if the trouble was what she supposed, she should attend to it at once. She made no arrangement for such an examination, no opinion was given, and she went her way. Have seen one case of inflammation of the posterior joining of the pelvis on the left side, attended by great pain increased on motion, tenderness of the part, with much fever, requiring energetic treatment for its relief; it was followed by an affection of the veins of the leg on the same side. Have never seen a case of "relaxation of the pelvic ligaments," as is alleged to exist in this case. It is exceedingly rare; Dewees, one of the most distinguished practitioners of midwifery in this country, after a long practice, had seen but two decided cases. The connections of the pelvic bones are very close; they have to a certain extent the anatomical structure of joints, but practically, so far as parturition is concerned, even if any relaxation of these parts takes place during pregnancy, may be deemed immovable. They are joinings rather than joints, as the word is usually understood. Relaxation of the joinings without obvious inflammation must be difficult to detect. Trousseau, one of the most eminent physicians of Paris, had a patient under his care for another affection before confinement; after confinement he kept her in bed fifteen days, then on the sofa other fifteen days; she complained of pains in her loins and pelvis; it was more than a month before she could get round her room. Trousseau thought she had a slight inflammation of the womb, and treated her accordingly. But one day, more than two months after her confinement, he saw her attempts at walking, and thought at first she had disease of the spine; afterwards believed it to be relaxation of the pelvic joinings, but as she was fleshy he could not prove it. He treated her for the supposed relaxation, and she recovered. A second case he did not recognize at first. Scanzoni, an eminent German physician, doubts if the exact nature of the trouble can always be made out with certainty during life. Even the experts called by the plaintiff are not now agreed as to the existence of mobility of the joints in this case. It is the duty of a physician to make such examination in every case as its nature seems to him to require. In this case, as in Trousseau's, he would be very much more likely to suppose the pains and lameness were of the nature of those he so often sees during the first week of confinement than an affection of extreme rarity, a case of which he had never seen.

Dr. Wesselhoeft, of Cambridge, testified that the woman called at his office. On entering she walked in a very painful manner, rolling from side to side; asked him about relaxation of the pelvic ligaments; as she could get no satisfaction from him, became incensed, and went out walking very well, manifestly improved.

Dr. Woodbury, of Boston, said that he had attended four thousand three hundred cases of delivery; had never seen a case of relaxation of the pelvic ligaments.

The exceeding rarity of this lesion was also testified to by all the physicians. The ground taken by the plaintiff's attorney in his argument was that Dr. Chase had neglected the case in that he had made no examination, and that he had lied on the witness-stand because there was no other course for him to pursue.

The defense claimed that due and ordinary care had been used; that there was no necessity for an examination, as the symptoms complained of did not warrant it. Also, that the plaintiff had not used due care to promote her own recovery.

The charge of the judge was fair and impartial. The jury returned a verdict for the plaintiff for $4916.67. Exceptions were taken to the verdict, as not being in accordance with the weight of testimony.

MEDICAL NOTES.

— It is reported from Munich that a case of arsenical poisoning has occurred in a man who for a long time has worn a green silk eye-shade.

NEW YORK.

— At the last meeting of the board of governors of the Woman's Hospital, the staff of visiting surgeons was increased to six, and Drs. James B. Hunter, Charles C. Lee, and Emil Noeggerath were appointed to the vacant positions. Hitherto there have been four, and the resignation of Dr. Fordyce Barker left one vacancy in that number. Dr. Noeggerath is a German gynæcologist of considerable reputation, but has never been connected with the hospital; while both Drs. Lee and Hunter have been assistant surgeons there for a number of years. Dr. Hunter, who is the editor of the *New York Medical Journal*, has been associated with Dr. Thomas, and Dr. Lee was Dr. Peaslee's assistant up to the time of the death of the latter. Dr. Hunter has appointed as his assistants the son of the late Dr. Peaslee and Dr. Clement Cleveland, a graduate of Harvard, and formerly house-surgeon at the Woman's Hospital; and Dr. Lee's assistants are to be Dr. A. A. Smith, formerly assistant to Dr. Barker, and Dr. H. T. Hanks, lecturer on obstetrics at the Dartmouth Medical School.

— Professor Thomas has just read before the Academy of Medicine a paper comprising the reports of six cases of abdominal pregnancy treated by him.

— One of the most popular courses of lectures being given this season is that by Dr. L. Duncan Bulkley, in the pathological amphitheatre of the New York Hospital. The lectures, which are both didactic and clinical in character, embracing the entire subject of diseases of the skin, as well as syphilis, will be twenty-four in number, and are free to all practitioners and medical students. The audience is mainly composed of the former class, however, and among the regular attendants may be seen such men as the venerable Prof. Alfred E. Post, and Drs. Gouverneur M. Smith and F. B. Lawson. Dr. Bulkley has just received a large number of beautiful models from Paris.

— The New York Board of Health is represented at the Sanitary Conference, in session at Richmond, by Drs. S. O. Vanderpoel, health officer and commissioner, E. G. Janeway, health commissioner, and E. H. Janes, assistant sanitary superintendent.

CHICAGO.

— The West Chicago Medical Society had under consideration at its last meeting the subject of the nucleus of the human red blood corpuscle. Dr. F. L. Wadsworth, who had been the associate of the late Professor J. W. Freer, gave a history of the studies and methods of the latter, and defended the claim that he was the discoverer of the nucleus. More than ten years ago Freer had studied blood under the microscope by means of reflected light and a dark slide, and had found a large proportion of the red discs to have an elevation in the centre which he took to be a nucleus. That the appearance was an elevation and not a depression was proven by the fact that it would cast a shadow on lateral illumination. The chances of the appearances being genuine and not misleading were enhanced by the use of reflected instead of transmitted light.

Freer never claimed that in all the red corpuscles of any specimen could the nucleus be found, but only in a part of them, the proportion differing in the blood of different individuals.

The process of Boettcher, which consisted in bleaching the corpuscles with chemicals (corrosive sublimate) and then staining with carmine, the nuclei taking more color than the body of the cell, only proved the claim of Freer. Freer had exhibited his process to several distinguished men in Europe, two of whom had acknowledged the fact in their later writings, but neither had appeared fully convinced that the "appearance" was a nucleus.

The latest apparatus Dr. Freer had used for conveying light to the field of the microscope consisted of a mirror, upon which a jet of condensed light was projected, which reflected the light down the left tube of a binocular stand. This apparatus originated with Drs. Danforth and Wadsworth.

Quite a lengthy discussion followed the remarks of Dr. Wadsworth.

LETTER FROM WASHINGTON.

Medical Matters in Washington. — National Medical Library.

Mr. Editor, — The lovely October weather which we are now enjoying is becoming more and more bracing as the fall advances, but still too warm for comfort, and makes us look forward anxiously to a more decided change for the sake of our suffering brethren now under that fearful scourge, the yellow fever. Washington has done and is doing her share in the shape of contributions; of the seventeen volunteer nurses sent down by her six returned, ten were taken with the fever, and five died at their posts. Much comment has been made in the newspapers upon statements and counter-statements respecting the conduct of these medical men and nurses, and the reports which they gave of the condition of affairs in some of the stricken cities. We have even had them portrayed in one of the illustrated weeklies as indulging in the wildest of orgies. The profession here are very much mortified in consequence, and while the movement was one in which they did not participate, and the selection can in no way be credited to them, as of the two medical men who were of the party but one is at all identified with the profession here, they cannot help feeling its influence; and while they think that the statements made by these gentlemen on their return were injudicious, and undoubtedly greatly exaggerated as hearsay evidence which had grown by repetition, still they would not credit them with maliciousness and evil intent in circulating such reports, and think there must have been some foundation for their origin.

Both of our medical colleges have got their work well in hand, and have fair classes in attendance. The Georgetown Medical College has this year adopted a course of instruction which leaves the National Medical College far in the rear, and is much to be commended if adhered to and carried out to the letter. From the past working of its new faculty there is every reason to believe that it will be. This faculty will have the satisfaction of knowing that it is doing its duty thoroughly, and teaching its older sister what she too ought to do. It has extended its course to one of seven months' duration, and adopted the graded system of three years' instruction and examinations at the end of each year, with important additions in the weekly recitations, which are obligatory, and of which a record is kept, determining in part the standing of the student when he comes up for his faculty examination. But this college has entered upon an unequal contest, as the National Medical College has age, stability, and far better advantages for teaching and practical demonstration in the possession of its own building, which is well adapted to the purpose. This year the latter college has begun courses of practical instruction in physiology, inclusive of microscopical histology and of practical pathology. Prof. W. W. Johnston, in his opening address, very truly said that it was impossible in this climate to give the same continuous and extended course of instruction as in the more northern schools; it was usually too warm too commence lectures before October 1st or to continue them after May 1st of each year.

Besides the colleges, following the example of other cities, a training school for nurses has recently been established, and already lectures are being given to some dozen of that class. It is under the patronage of many of our most zealous citizens, with whom the profession has gladly coöperated, and with patience and earnestness in the cause it bids fair to be a success.

The hospitals have settled down quietly after the turmoil of investigations, to wait new events; of course, in this age, and especially in this city, they will not be left quiet for any length of time. The Freedman's Hospital investigation has resulted in the retention of the surgeon in charge, after much expression of feeling, criminations and recriminations; it has developed a curious phase, as showing how many men there were here who, to believe their credentials, were specially suited for the position in case the present incumbent should have been forced to vacate, and of these men some half dozen had precisely the same names of their professional brethren to recommend them. The Columbia Hospital has had a so-called public investigation of charges made by an irritated nurse against the surgeon in charge, resulting in his complete exoneration ; but the profession do not seem to be satisfied regarding the hospital ; and very naturally, in the light of past events, with some suspicion the opinion prevails that either the advisory board are greatly to blame for allowing such charges and testimony to assume the dignity of a public investigation, — for, as made known, they were simply what come almost daily under the notice of every hospital board, — or that there is something more which was not brought out, and which was the true mainspring for their action. It would seem to necessitate them to make a full publication of the whole matter.

The abolishing of the old board of health and the substitution of a health officer has been generally acceptable to the profession ; for, although the old board did much to benefit the city, and a great deal could be said in its favor, still it was no more than could be reasonably expected with such means and power as it had at its command, and its *personnel* was decidedly objectionable to a great many. The new health officer, although not the preferred choice of a majority of the profession, has entered upon the performance of his duties with a very fair prospect of giving satisfaction.

We are promised a new journal, and, as is the case with so many enterprises centring here, it is of course to be called national — *The National Medical Review.* The enterprise, it is to be hoped, will not meet the untimely fate of its predecessor, *The National Medical Journal,* which came to its end so painfully now a little over six years ago. The editor promises to conduct his journal in accordance with the ethics of the American Medical Association, and to keep free from all entangling alliances. He proposes to review such articles as may have escaped the attention which their merits demand, to be found in the medical literature of the past ten years ; a rather rash promise when we consider the number of journals embraced in that period, with their lynx-eyed editors. The Medical Society of the District of Columbia has with alacrity availed itself of this opportunity to publish its transactions free of charge, responsibility, and labor, and to do this leaves its quarterly volume with one number wanting to complete the year. It is to be hoped that it will not regret the step which it has taken so precipitately, and that the journal in question will meet its expectations. The editor brings previous practical knowledge to bear upon his duties, and a satisfactory journal in this city certainly deserves support.

Two of our active practitioners — Drs. Johnson Elliot and James T. Sothoron — have been suffering from the effects of poisoned wounds, the virus of decomposing animal tissue. Dr. Elliot, whom, as one of our most prominent and successful surgeons, we could ill afford to ose, has after a severe struggle shown the vigor of his constitution by a satisfactory recovery. In the case of Dr. Sothoron, the symptoms, although not at their onset of such a virulent type, are still showing in a modified form their influence upon his system ; but with a pertinacity characteristic of his nature he continues to attend a large and onerous practice.

Going into the library of the surgeon-general's office, the other day, to look up some works of reference, we could not help being struck with the thoroughness of the administration of that library, seeing spread out on the table before him, as an example, the whole of the collection of pamphlets, in bound volumes, which belonged to Claude Bernard. Here, then, was the material utilized by that distinguished physiologist to aid him in those researches which have done so much for medicine, and with which the whole medical world is so familiar; and here is but one of the many evidences around us in the library of the work of its head, Dr. J. S. Billings, United States army, who has brought out of what was next to nothing the greatest medical library in the world. We have before us a little insignificant pamphlet, somewhat smaller than a medium duodecimo, of twenty-nine pages of print, entitled Catalogue of the Surgeon-General's Office Library, October 23, 1865. It is not necessary to review its contents further than to note that it records twenty-six American journals and society transactions, and seventeen foreign journals and society transactions as upon its shelves, — forty-three in all. Eight years later — 1873 — are published, with the same title, three large volumes of imperial octavo, containing respectively 1193, 956, and 319 pages, a catalogue of 2468 pages in all.

What this library is to-day is best told in Dr. Billings's own words in an article published in the *Library Journal*, vol. iii., No. 3, May, 1878, — an article intended especially to interest librarians in the publication of a subject catalogue, and inserted in a journal devoted to their interests. Of what great value it is to the medical world may be fairly judged from his statements, and from the piles of letters received by him from home and foreign correspondents seeking information not attainable elsewhere.

Dr. Billings says, in the article referred to above, that the library now comprises fifty thousand volumes, which comprehends everything attainable relating to medicine. Medical periodicals, of course, claim the first notice, and for the last four years the purchases have been mainly of this character. On the shelves we find from eight thousand to nine thousand volumes of medical periodicals, or more than seventy five per cent. of all that have ever been published. So that at the present time every important medical journal now in course of publication *in the world* is taken by the library; and, moreover, as soon as these copies are received, before they are placed to rest by the side of their fellows, their contents are carefully noted, and a complete title of each original paper is so indexed upon subject cards as to be made available within three days of their receipt to any of us who may wish the desired information. So thorough and complete is this system that the subject cards of the books, pamphlets, and periodical articles already include about four hundred thousand titles. To make this latter available to the profession generally seems now to be the great aim of Surgeon-General Barnes and such of the profession as are already alive to the project, and they are endeavoring so far to interest Congress as to induce it to pass an appropriation sufficient to cover the expense of publishing this great work. What a grand conception; and what a lightening of our labors to know throughout the country that in our neighboring library we should find a catalogue that would enable us to turn at once to references giving explicit information as to where to find all that has ever been published upon a given subject, however simple it may seem! The cost is great, but the object is grand; it would involve for the subject catalogue alone some seven volumes royal octavo of one thousand pages each, the author catalogue taking three volumes more, and for an edition of three thousand copies would cost $120,500. Dr. Billings proposes to print two volumes a year.

The situation of the library is peculiarly interesting in its associations, the readiness of access to the books, and the politeness of the assistants in charge. The location is in the fire-proof Army Medical Museum, the old Ford's Theatre, which was the tragic scene of the assassination of Abraham Lincoln; and the visitor used to be shown, in a mysterious manner, part of a vertebral column with the bullet, as the memento of John Wilkes Booth, and which was supposed to be exhibited on the site where the president sat on that fatal evening. So transformed is the whole internal arrangement that it would be hard for even an old *habitué* of the theatre to verify any such location. The books are all out in full view, to be inspected and handled at your pleasure, and there is no envious looking through glass panes or wire screens at what you cannot reach without the aid of an assistant. The room is warm and comfortable, with every convenience for the visitor who wishes to make extensive notes, and the quiet which pervades shows a due regard for mental abstraction. Every other Saturday evening the Philosophical Society discusses here, with some of the first savants of the country, the scientific problems of the day. Just now the society is paying, by carefully prepared eulogies, its just tributes to the memory of Joseph Henry, which, it is hoped, will receive a wider circulation than the bulletin of the society can give them.

In 1868, a period almost coincident with the commencing growth of the surgeon-general's library, the American Medical Association, recognizing the great want of a national medical library, took steps, chiefly through the agency of Dr. J. M. Toner, to secure one of its own, and hopes were entertained that it would in time meet the demand; but the resources of, and the great efforts made by, the surgeon-general's office so soon overshadowed this effort that it became of but minor importance to the members of the association in their attempts to foster this, the great national medical library, and the association has ever been foremost in the past, as it is to-day, to recognize its value and assist in extending its sphere of usefulness. The circular issued by Dr. H. C. Wood, as chairman of the committee of the American Medical Association, on the library of the surgeon-general's office shows very clearly the value which the association puts upon it, and sets forth explicitly the cogent reasons why Congress should undertake the publication of the subject catalogue. One of the pleas given in this circular appeals directly to the personality of each and every constituent of congressmen, — that their own family physician in their own case may require just this information to give them medical relief. The library of the association still lives and grows, in a corner of the Smithsonian Institution, gaining some vigor in a modest way by contemplation of the strength and power of its associate, and confining itself to disseminating copies of the association's annual volume of transactions to medical journals and societies at home and abroad, receiving in return similar favors, every year increasing its proportions, until in time it too will be looked upon as worthy of some consideration. It is now of sufficient importance to warrant its being consulted to advantage by those members who have not large libraries at their disposal and who can have free access to it. W. L.

WASHINGTON, *November*, 1878.

SHORT COMMUNICATIONS.

YELLOW FEVER INVESTIGATION.

On Saturday, the 9th of November, a committee appointed by the Maryland Academy of Sciences, and approved by the Academy of Medicine and Baltimore Medical Association, consisting of Drs. J. R. Uhler, C. C. Bombaugh, and C. L. Oudesluys, waited on President Hayes with the following memorial: —

To the President: —

The undersigned, a committee appointed by the Maryland Academy of Sciences, most respectfully request you to transmit to Congress a message asking an appropriation and authority to appoint a permanent scientific and medical commission to study and report upon the nature, causes, treatment, and prevention of yellow fever and allied epidemic diseases, said commission to consist of twenty or more members chosen from the ablest chemists, physicists, microscopists, biologists, naturalists, and physicians in the country, with power to select from their own number and others workers, in order that the disease may be systematically examined from different points of view, both by acclimated members on the spot and others in the various laboratories of our country.

J. R. Uhler, M. D.,
George W. Davidson,
Charles L. Oudesluys,
P. G. Sauerwein,
Rev. John M. Holmes,
C. C. Bombaugh, M. D.

During the conversation that ensued the following important points were made: (1.) That the active intervention of men of trained judgment and special qualifications is essential for success. (2.) That the investigation should be commenced at once before another epidemic occurs, in order that the usual healthy conditions of the air, water, food, vegetable and animal life in the infected districts may be accurately ascertained. (3.) That the investigations should be made by a large number of specialists, in order that many new methods may be tried. (4.) That a portion of this work can only be conducted in the various large laboratories of the country; hence a number of names of men possessing a national reputation, and connected with Harvard, Yale, the universities of Michigan, New York, Pennsylvania, Maryland, Louisiana, Bellevue Medical College, Cincinnati Medical School, and the Surgeon-General's Office, were suggested for appointment. (5.) The importance of systematic efforts was discussed, and the committee left with the assurance that the memorial would be acted upon, and with the request of the president that it should be widely made known, in order that medical and scientific men may induce Congress to pass the bill.

THE METRIC SYSTEM.

Mr. Editor, — In volume xcvi., 1877, of the Journal there appeared several articles on the metric system. These were preceded by an article from the pen of Dr. A. N. Blodgett. In all the careless abbreviation of gmm. for gram and the very oldest spelling are adhered to. It is important that liability to error should not trammel the boon we are about receiving in the metric system of weights and measures. Not having seen a correction in subsequent issues of the Journal, I beg a little space for that purpose.

All comparative calculations should be made from the following units. They are given on authority of the American Metric Bureau. One gram is equal to 15.43234874 grains troy. One centigram is equal to .15432 grain troy; one grain is equal to 6.47989 centigrams; one scruple is equal to 1.29598 gram; one drachm is equal to 3.88794 grams; one ounce is equal to 28.34954 grams. In measures of capacity one cubic centimeter, which is the same as one milliliter, is equal to 16.22821 minims; one liter is equal to 2.113 pints; one minim is equal to .06162 cubic centimeter; one fluid drachm is equal to 3.69727 cubic centimeters; one fluid ounce is equal to 29.31531 cubic centimeters; one pint is equal to .473 liter.

Only the gram and centigram and cubic centimeter should be used in medicine. In abbreviating write Gm. (capital G and small m) for gram; C. C. (both capitals) for cubic centimeter; the centigram is not needed. By writing Gm. for gram all fear of its being mistaken for gr. or grs. is removed.

Use the decimal line instead of points. It makes error impossible, and gives shape to a prescription. A metrical prescription with the line will look similar to the following: —

	Gm.	
℞ Hydrarg. bichlor.		10
Potassii iodidi	31	
Tr. cinchon. comp.	125	
Aquæ	31	

M.

In writing for a single article, or without the decimal line, always write the amount *before* the sign, — another guard against Gm. being mistaken for gr., which is usually written before the amount.

The spelling is that of the American Metric Bureau. Gram (omitting the final *me*) is admirable, but meter and liter for metre and litre are of doubtful propriety.

It is better and less confusing to prescribe only in grams, remembering always that Gm. used for C. C. causes a deficit of 5 per cent. A teaspoonful is 5 Gm.; a tablespoonful 20 Gm. It is hoped that the above will aid in bringing about a uniformity among metric prescribers that is very much desired.

F. Marion Murray, M. D.

23 North 19th Street, Philadelphia, *October* 19, 1878.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 16, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171			23.42	28.71
Philadelphia.	876,118	284	16.86	18.80	21.54
Brooklyn.	549,438	212	20.07	21.51	25.50
Chicago.	460,000	139	15.71	17.83	22.39
Boston.	375,476	176	24.37	20.10	24.34
Providence.	100,000	42	21.84	18.81	19.20
Lowell.	55,798	11	10.24	19.09	22.50
Worcester.	54,937	15	14.20	20.06	22.30
Cambridge.	53,547	17	16.50	18.69	20.83
Fall River.	53,207	29	28.35	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	6	9.19	16.02	19.77
Salem.	27,140	8	15.33	20.38	21.15

THE METRIC SYSTEM IN MEDICINE.

OLD STYLE.	METRIC. Gms.	
♏i. or gr. i. equals		06
fʒi. or ʒi. equals	4	
f℥i. or ℥i. equals	32	

The decimal *line* instead of *points* makes errors impossible.

As .06 (Drug) is less than a grain, while 4. and 32. (Vehicle) are more than the drachm and ounce, there is no danger of giving too large doses of strong drugs.

C. C. used for Gms. causes an error of 5 per cent. [excess].

A teaspoon is 5 Gms.; a tablespoon, 20 Gms.

BOSTON MEDICAL LIBRARY ASSOCIATION. — The adjourned meeting of the association will be held on Tuesday, December 3d, at four P. M. Reports of the secretary, treasurer, and librarian. Election of officers.

The dedication of the new building and hall, 19 Boylston Place, will take place at eight P. M. Order of exercises: Report of the Building Committee. Address by the President, Dr. Oliver Wendell Holmes. Remarks by Dr. J. S. Billings, U. S. A., Librarian of the National Medical Library in Washington; Professor Justin Winsor, Librarian of Harvard University; Dr. George H. Lyman, President of the Massachusetts Medical Society; Charles W. Eliot, LL. D., President of Harvard University; Dr. David P. Smith, of Springfield, Vice-President of the Massachusetts Medical Society; Dr. Calvin Ellis, Dean of the Harvard Medical School; Dr. Henry I. Bowditch, Vice-President of the Medical Library Association, Ex-President of the American Medical Association.

A large loan collection of medical portraits will be exhibited in the hall at the meeting, and for the benefit of the profession, ladies, and others, throughout the rest of the week.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting of the society will be held on Monday next at 36 Temple Place. Dr. Wadsworth will read a paper on Two Cases of Optic Neuritis in Children.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at 36 Temple Place, on Saturday evening, November 30th, at seven and a half o'clock. The following papers will be read: —

Dr. E. Cutter. (1.) Brief Report of the Fifty-Fifth Case of Electrolysis of Uterine Fibroid. (2.) Electrolysis of Water by Water.

Dr. E. H. Bradford. A Case of Excision of the Hip-Joint.

Dr. O. F. Wadsworth. A Case of Optico-Ciliary Neurotomy.

Supper at nine o'clock.

THE GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held in the parlors of the Evans House, first Thursday of December, at two o'clock, P. M. The profession are cordially invited to attend upon the opening of the doors at 2.30 o'clock. HENRY M. FIELD, M. D., *Secretary.*

BOOKS AND PAMPHLETS RECEIVED. — Apparatus for Transfusion. Asphyxia in New-Born Children considered from a Medical and a Legal Stand-Point. (Reprints from the American Journal of Obstetrics.)

On Gastro-Elytrotomy. (Reprint from the New York Medical Journal.) By H. J. Garrigues, M. D. New York. 1878.

The Local Treatment of Eczema. By Henry G. Piffard, M. D. (The Record.) New York. 1878.

Notes taken from a Lecture by Dr. Manuel Dagnino at the Medical University of Caracas, Venezuela, on the Treatment of Yellow Fever.

Transactions of the Medical Society of the State of Pennsylvania. Volume XII. Part I. Philadelphia. 1878.

Restraint in the Treatment of Insanity. By G. F. Bodington, M. D., Birmingham.

The Journal of Physiology. Vol. I. Nos 1 to 5. London and Cambridge, and 22 Bond St., New York: Macmillan & Co. 1878. (For sale by A. Williams & Co.)

A Manual of Prescription Writing. By Matthew D. Mann, A. M., M. D. New York: G. P. Putnam's Sons. 1878. (For sale by A. Williams & Co.)

Clinical Diagnosis: A Hand-Book for Students and Practitioners of Medicine. Edited by James Finlayson, M. D., Physician and Lecturer in the Glasgow Western Infirmary, etc., etc. With eighty-five Illustrations. Philadelphia: Henry C. Lea. 1878.

Physician's Day Book. By C. Henri Leonard, M. D. Detroit, Mich. 1878. (From A. Williams & Co.)

Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. III. No. 10. On the Treatment of the Various Forms of Acne and of Rosacea. By R. W. Taylor, M. D., Professor of Diseases of the Skin in the University of Vermont, etc., etc. New York: G. P. Putnam's Sons. 1878.

THE BOSTON
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REFLEX SYMPTOMS IN HIP DISEASE.[1]

BY EDWARD H. BRADFORD, M. D.

SYMPTOMS which may be classed as reflex, common to all joint affections, are of particular importance in hip disease from the anatomical relations of the joint, surrounded as it is by large and powerful muscles.

I. The first of these, stiffness or limited motion at the hip-joint, has always been regarded of value in diagnosis.[2]

Mr. Marsh, in a recent lecture says: " Stiffness at the joint affords direct evidence of hip disease, so that in a vast majority of cases it is an aphorism that if it be present the joint is affected, while if absent the joint is sound." [3]

Mr. Holmes writes: " Coincidently with early symptoms of hip disease is a stiffness of the joint, which appears to me the best and earliest test of the affection." [4]

Valette writes: " Avec l'integrité des mouvements de la hanche pas de coxalgie." [5]

To learn the value of this symptom I have examined with care the mobility at the hip-joint in one hundred patients, in half of whom hip disease existed at various stages, and in the remainder either the joint was healthy or some affection was present liable to be confounded with hip disease.

Examination for limited motion is most readily made by placing the patient on a hard surface, as the floor or a table. The leg is held by the examiner, each thigh gently flexed, the amount of *flexion* without force noted. The amount of abduction, adduction, and rotation should be observed both when the limb is flexed and when extended.

The patient should be then turned on to his belly, and the amount of extension (motion in the opposite direction to flexion) determined by noting the extent to which the thigh can be lifted without raising the sacrum.

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[1] Read at the annual meeting of the Massachusetts Medical Society, June 11, 1878.

[2] Holmes, System of Surgery, vol. iv., page 85. Sayre, Orthopædic Surgery, page 234 et seq.

[3] British Medical Journal, July 21, 1877.

[4] Surgical Treatment of Children's Diseases, page 441.

[5] Nouveau Dict de Med. et Chir.

In health the amount of extension is in almost all cases [1] sufficient to allow the examiner to press the popliteal surfaces upon the level on which the patient lies (upon the back) without arching up the back or twisting the pelvis in the manner figured in Bonnet's work and in Dr. Sayre's book on Orthopædic Surgery.

In frightened children and in nervous patients passive motion often excites considerable muscular resistance. The limb may be held stiff. This normal muscular resistance, as it may be called, I have always found the same at both hip-joints, a fact of value in diagnosis. This resistance differs, in a way which is not easily described, but readily noticed, from that encountered on moving a thigh when the hip-joint is affected.

Individuals vary as to the extent of motion at the hip-joint, but this in any one person in health will always be found the same at both joints.[2]

The following cases well illustrate the amount of motion at the hip-joint seen in hip disease: —

CASE I. L., boy of healthy appearance, three and one half years old. Had been noticed to limp slightly with the right limb for a few weeks. Did not complain of pain, but three days previous to the time when first seen had complained of slight pain on getting out of bed. On examination no more limitation of motion could be found at the right hip-joint than at the left. Motion in all directions (flexion, extension, abduction and adduction, and rotation) was remarkably free and smooth. Extension sufficient to allow pressing the right popliteal surface and the lumbar spinous processes on the same plane without causing any obliquity of the pelvis (Bonnet-Sayre test); no tenderness to be found in the region of the hip-joint; no pain evinced during examination. The examination was made with care, and was repeated by others with a like result. A second examination, a few days later, gave a similar result. On a third examination, a week later, the motion at the right hip-joint was found, in flexing and in extending, slightly limited (5° to 10°). In a few days the child complained of stiffness in the morning when getting out of bed. This passed away in the course of the day, as the child played about. In a short time the patient was seized by a severe attack of pain in the groin. This was relieved by extension and rest in bed. In a few weeks the child was allowed (against advice) to run about, and in the course of six months the disease at the joint had progressed to the suppurative stage of hip-joint disease, with the formation of abscess and the usual characteristic symptoms.

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[1] In one of the healthy cases which I examined I found it impossible to press either popliteal surfaces upon the floor without arching the back; the child was frightened and resisted examination. I found this also the case on examining the motion at the hip-joint of a still-born child.

[2] The Weber brothers found that the arc of flexion and extension at the hip-joint was in the cadaver, the soft parts being removed, 139°; the arc of abduction and adduction, 90°; of rotation, 51°. In living subjects the arc of flexion and extension was 86°, or, according to Nicaise, 90°. In the living subjects I have examined I found the arc of flexion and extension greater than this.

In two adults, where the arcs of motion were carefully noted, I found 135° and 112° the arc of flexion; abduction and adduction, 63°, 69°.

In a still-born child (the muscles not having been divided) the arc of flexion and extension was 112°; of abduction and adduction, 90°.

In the cadaver of an adult the muscles of the thigh having been partially cut away, the arc of flexion was 110°. When the cadaver was laid on the belly, the thigh could be lifted, without raising the sacrum (extension), 15°. If the limb was abducted slightly, extension was freer than when moved in the line of the body. This is due to the fact that the gluteus minimus is inserted on outer and anterior aspect of the trochanter. When the limb is abducted slightly this muscle is not so quickly made tense as when the limb is straight.

This case was seen at a very early stage, and is the only one, among the fifty which I examined, where limited motion was not found. It is interesting as disproving the aphorism of Valette :[1] " Avec l'integrité des mouvements de la hanche pas de coxalgie." This symptom soon appeared.

Case II. D., well-nourished child, five years old. Suffered one year and a half before from brief severe attacks of pain in the left groin, considered rheumatic, at intervals of three and six months. These attacks lasted about a week, after which the child was able to play about freely without suffering pain. A severe attack of pain occurred in the spring of 1877. Examination after recovery from this attack showed that flexion at the hip-joint was easy in an arc of 10°. No extension or abduction was possible. The limb was held slightly flexed. The disease progressed, and in a few months there was no motion at the hip-joint. Severe nocturnal pains occurred, and the usual symptoms of hip disease followed.

Case III. L., girl, nine years old, seen after recovery from a severe attack of pain in the groin. Flexion at the hip-joint easy in an arc of 90°. Resistance encountered on abducting and extending. The limb kept ordinarily in a position of slight flexion. The case did not come under treatment, and within six months the characteristic symptoms of hip disease, with suppuration at the joint, appeared.

Case IV. F., aged nine, hip disease of two years' duration, attended with the formation of abscess. The limb had been kept in good position by treatment, but there was no motion at the joint.

The amount of limited motion therefore varies. This was found in all the cases of hip disease examined. Motion was limited to an equal degree in flexing and in extending. In the lighter cases the limitation of flexion is less readily estimated than extension, and therefore less valuable as a symptom. Abduction is almost invariably limited.

In stages of acute pain the thigh is held stiff; motion becomes freer after the painful stage is passed.

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[1] Nouveau Dict. de Med. et Chir.

Limited motion at the hip-joint was found in some other affections than hip-disease. It was marked in two rather unusual cases of what may be called "sprain" at the hip-joint, an affection which has, according to Bonnet,[1] not received due attention.

Case V. W., healthy boy four and one half years old, had been perfectly well until three days before examination. While playing had jumped and fallen down a short flight of steps. He suffered some pain after the fall, but walked about afterwards without complaint. On the following night, however, suffered some pain in the region of the right hip-joint. This was at no time severe. The boy limped in walking, and was unable to walk any distance.

On examination by Dr. Post, of Boston, and myself, it was found that the right thigh could be flexed only in an arc of 80° without causing muscular resistance. The left thigh could be easily flexed in an arc of 120°. Abduction of the right thigh was more limited than of the left. No difference could be detected in rotation. Extension at the left hip-joint was free, but was limited at the right, it being impossible to press the right popliteal surface upon the floor without arching the back, although this could be done with the left. The boy continued to improve without treatment, being allowed to run about. The pain soon ceased and did not return, except that once, a fortnight after the accident, the patient complained of slight pain in the groin. When examined, three months later, no limitation to motion was found; and on a third examination, nine months later, the motion at the right hip-joint was found equal to that in the other, and was perfectly smooth. The boy had been entirely free from pain or limping in gait since a short time after the accident, and had played about as usual.

Case VI. C., adult, aged thirty, was thrown by the lurch of a steamboat suddenly forward and to the left. The patient did not fall, recovering himself by a violent effort, but suffered sharp pain behind and above the trochanter, and was unable to move without pain for several minutes.

When examined, two days later, some tenderness was found in pressing on and behind the trochanter. No pain was caused on flexion or extension. Passive motion in the left limb less free in the direction of abduction than in the right; in other directions the amount of motion at both joints was equal. The patient limped considerably in walking, but this passed off in a few days without any treatment.

Limited motion was found at the hip-joint in the following case, where a positive diagnosis is not possible: —

Case VII. A healthy child, five years old, was suddenly seized, without known cause, with severe pain in the left limb, located chiefly at the groin, which was increased on any attempt at motion. The left thigh was held flexed. At the end of two days the pain had subsided, and the child got up and walked about, but was seen to limp with the left limb.

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[1] Il faut étudier les entorses (de la hanche) dont l'étude est aussi importante que négligée. (Bonnet, Mal. des Art, T. ii., page 200.)

When the child was examined, a few days later, no pain or tenderness could be discovered at the hip-joint, and the child had complained of none since the first attack. There was slight stiffness at the left hip-joint, it being impossible to place the popliteal surface of the left limb on the floor without arching the back. This limited motion in the direction of extension was quite marked when the patient lay on her face with the thigh lifted. There was also a slight limitation to flexion on the left side. A second examination, made by Dr. C. P. Putnam, of Boston, gave a similar result.

The child was kept quiet in bed for a month, after which time she played about as usual. The limited motion was not found a fortnight after the original attack of pain, and on repeated subsequent examinations the motion at both hip-joints was found the same. There has been up to the present time, seven months after the attack of pain, no recurrence of pain, limping in gait, or peculiarity in the position of the limb, and the child has enjoyed perfect health.[1]

In several cases of caries of the spine, extension of the thigh was found limited, but flexion remained normal.

In a case of obscure abdominal abscess, perhaps "perinephritic," the same was true in a very marked degree.[2]

In two patients suffering from what was considered caries of the trochanter, not involving the hip-joint, flexion of the thigh was quite free, but the limb could not be extended from the slightly flexed position in which it was held; there was thickening of the femur about the trochanter and sinuses leading down to the femur.

In a few cases where some of the symptoms would suggest hip disease, perfectly free motion was found, as follows: —

(*a.*) Sciatica in an adult, in a subacute stage. The thigh was held by the patient, slightly flexed and adducted. The motion at the joint was perfect.

(*b.*) Inflamed glands in the groin of a child, caused by a contusion. The thigh was flexed and adducted; there were swelling and tenderness in the groin. The motion in all directions, in extension as well as flexion, was free.

(*c.*) In two cases of the rare affection, sacro-iliac disease, which I saw through the kindness of Dr. Poore, of New York,[3] the motion at the hip-joint on the affected side was free and smooth. This is said to be the rule in this affection.[1]

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[1] It is possible that this case may have been one of beginning hip disease, where recovery took place in the month of rest.

[2] Am. Journal Obstetrics, April, 1876. Several cases of this affection, simulating hip disease, are reported by Dr. Gibney.

[3] Am. Journ. Med. Sciences, January, 1878.

Limitation to motion has been mentioned by authorities as having been seen in various affections.

Bouchut has observed a contracted condition of the flexors of the thigh (and hence a limitation of motion in extending the limb) in a case of infantile paralysis, which, from the position of the limb, suggested hip disease. This condition is rare. In the cases of infantile paralysis affecting one lower extremity, which I have seen, the motion at the hip-joint was much freer on the affected than on the normal side.

M. Verneuil has recently described a contraction of the adductors simulating hip disease. There is an awkwardness in gait and an interference in abduction and extension, but not in flexion.[2] Both limbs are usually affected.

In the affection called "hysterical" coxalgia, "neuralgia" of the hip-joint (Brodie), the thigh at times will be held perfectly stiff.[3]

In muscular rheumatism, affecting muscles about the hip-joint, there is said to be a stiffness on moving the thigh from the pain caused; this is entirely different from the painless resistance encountered in early hip disease.[4]

In the only case of muscular rheumatism of muscles of the thigh which I have examined the motion at the hip-joint was quite free.

In acute inflammatory affections of the hip-joint, other than hip disease proper, the joint is held stiff.

In morbus coxæ senilis (arthrite sèche) there is stiffness at the hip-joint similar to that seen in commencing hip disease.[5] A diagnosis must be based on the age of the patient.[6]

The conclusions to which I am led, from the examinations made, may be summed up as follows: —

Stiffness or limited motion of the hip-joint may rarely be wanting at the very commencement of hip disease, contrary to what has been taught.

The symptom is, however, an early and constant one; much more so than the presence of pain or tenderness.

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[1] Nicaise, Diagnostic des Maladies de la Hanche. Paris, 1869.

[2] Gaz. des Hôpitaux, July 28, 1877.

[3] Barwell's Diseases of Joints. Brodie's Neuralgia of Joints. Nicaise, Diagnostic des Maladies de la Hanche, page 92. Jacobi, Am. Journal Obstetrics, June, 1876, page 218. Albert, Wiener Klinik, second series, Huftgelenkkrankheit. Taylor, New York Med. Record, 1875, page 321. Philleppaux, Gaz. hebd., No. 10, 1867.

[4] Pour reconnaitre la contracture rheumatismale de la hanche on emploiera la faradization de la hanche, qui la fera bientôt cesser. (Nicaise, Diagnostic des Maladies de la Hanche.)

This is not the case in hip disease.

[5] Robert Adams's Rheumatic Gout.

[6] Verneuil, Gaz. des Hôpitaux, February 19, 1878.

This limited motion may be so slight as to be detected only by the exercise of great care, or may be enough to cause complete stiffness of the joint. The amount depends probably upon the activity and duration of the process.

The symptom is also seen in other diseases of the hip-joint.

In certain affections about the joint, but not involving it, in muscular contractions from various causes, there may be limitation to motion. This symptom is not an early one, and differs from the resistance encountered in the early stage of hip disease. In hip disease the motion of the thigh is limited both in flexing and in extending to an equal degree. In affections not involving the joint, the limitation to motion is not so uniform ; flexion may be possible to the usual amount, while the motion of extension may be absent.

Resistance to motion to an equal degree in all directions is highly characteristic of a joint affection.

(*To be concluded.*)

MEDIASTINAL GROWTHS.[1]

BY F. F. MOORE, M. D., ALLSTON, MASS.

Reviewing very briefly the literature relating to tumors of the mediastinum, we find that comparatively little is said upon the subject in our text-books, for the reason, no doubt, that little of a definite nature is as yet known, and the question of the causation, origin, diagnosis, prognosis, and treatment of these growths opens up a large and intensely interesting field for further research. Able investigators have already been at work, however, and through their efforts some light has been thrown upon the matter, and the following facts may be considered as fairly established. The ætiology of these growths is very obscure. Injury, catching cold, etc., have been given as causes, but their influence, if they have any, must be simply of an exciting nature. The question of hereditary transmission is a more important one, and demands further investigation, as little is known in this relation at present. According to Hertz, in Ziemssen's Cyclopædia, only particular forms are inherited, such as certain cystic growths. Statistics, so far as they go, would seem to prove that sex has an influence, males being much more frequently attacked than females. With regard to age, they are found more commonly in the young and middle aged, or from twenty to forty. Coming now to the pathological anatomy of these growths we find that the most common forms are sarcomata and carcinomata. Cysts and simple hyperplasia of the lymphatic glands are rare, and fibromata are still more uncommon. Sarcoma generally occurs as lympho-sarcoma. Carcinoma appears usually in the medullary form, more rarely as scirrhus. Virchow gives a mixed form of tumor, which is called sarcoma-carcinomatosum. The seat of these tumors is oftenest in the anterior mediastinum, less often in the posterior, sometimes in both. They may occur as solitary or multiple growths. Sarcoma and carcinoma may take their origin in the lymphatic glands of the neck, or in the tracheal and bronchial glands; more rarely they start from the pericardium or from the periosteum of the sternum, or they may commence in the fat and connective tissue of the mediastinum. The duration of the disease varies according to the nature of the growth; the sarcomata and the medullary form of the carcinomata generally taking a rapid course, while the scirrhous and fibrous tumors are often of long continuance. The prognosis admits of but one opinion, no case of recovery being on record. The diagnosis is always difficult, and often impossible. The treatment can only be supporting and palliative.

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[1] Read before the Middlesex South District Medical Society, October 9, 1878.

The following case is of considerable interest in this connection: —

A young man, twenty-two years of age, a dental student, came to me June 15th with the following history: The father had, when about forty years old, "scrofulous glands" in the neck, which discharged pus for some time, and finally healed up. A brother died twelve years ago, in his fortieth year, of "tubercular meningitis" with tubercular deposits in the lungs. Two other brothers, older than the patient, are troubled with "chronic sore throat." The patient himself was well up to January last, with the exception of some dyspeptic symptoms dating back a year or more, but which had been less troublesome latterly. At the date mentioned he began to lose strength, getting tired easily, but still keeping hard at work at his studies. In the following April a slight cough, with a scanty mucous expectoration, came on. About May 1st the patient noticed an enlargement of the thyroid gland on the right side, and two weeks later on the left side also. During this time the general prostration continued, and becoming somewhat anxious about his condition he consulted me, as stated, in June. At this time he was still engaged in his studies, but was much debilitated, and complained of difficulty of breathing upon exertion. He walked bent over, and said he had noticed that he was getting round-shouldered for some months previously. If he endeavored to straighten himself up, or to lie down flat on his back, it caused pain and distress beneath the sternum, and cough. For a month past he had had an occasional feeling of numbness in the right arm and hand, and several attacks of giddiness, though no pain in the head at any time. He complained of a very troublesome itching of the skin, confined chiefly to the legs, which disturbed sleep at night. The patient was free from pain at this time, and his chief complaint was of debility and difficulty of breathing on exercise. Though strongly advised to give up work and rest, he continued his studies until the close of the annual examinations in the latter part of June. He then went out of town for a vacation, but, not gaining in health as he expected to, he came home at the end of a week, feeling worse in every way. For a few days after returning he could walk out-of-doors, though not for long distances, on account of weakness and shortness of breath. Finally he was obliged to keep within doors, and was soon confined to his room. This was in the latter part of July, and from that date to the termination of the case the patient was under daily observation, and was also often seen by Drs. Bowditch and Knight in consultation. Drs. Whittier, Marcy, and Field were also called in to the case at different times. Frequent and careful physical examinations were made, with the following general result: —

Thyroid gland markedly enlarged on right side, and to a less extent on left side. Some œdema of space between the glands in the neck; also slight œdema around the eyes. Superficial veins over right chest and sternum very prominent. Enlargement of right chest noticeable, and measurement showed a difference of nearly an inch between the two sides. On percussion, flatness over the right chest in front down as far as the sixth rib, and over the upper two thirds of the sternum, the flatness extending around into right axillary space. Weak bronchial respiration and bronchophony heard over the region of flatness, and over the sternum a peculiarly high pitch of voice. No râles. Heart-sounds normal, but heard loudest and apex-beat felt a little below and to the outside of usual point. No murmur over the enlarged thyroid. No prominence of eyeballs. No subclavian or aortic murmur. No difference in pulse at wrist. Respirations from 22 to 28; pulse 112 to 128, small and weak; temperature 99° to 100° and 101°. Urine normal. The earlier examinations discovered nothing abnormal over the left chest, nor on the right side behind, but later dullness appeared over the lower part of both backs, always much more marked on the right side. No râles were heard at any time in either chest. The voice was not affected. There was a persistent pharyngitis, with at times thrush-like deposits. A peculiar piping noise was heard accompanying respiration, especially marked when the patient was lying down. The extremities were cold. There was no cachexia developed during the course of the disease, and the loss of flesh was not excessive. The mind was clear excepting when under the influence of narcotics. At one time there was a slight difficulty of swallowing, but this passed off. The appetite was variable, but as a general thing the patient took nourishment readily, and bore it tolerably well. The bowels, regular at first, were somewhat free later on, but there was nothing characteristic about the stools. The dyspnœa became more and more marked, amounting at times to orthopnœa, and there were several attacks of an asthmatic nature, characterized by labored breathing, lividity of face, etc., with sibilant and sonorous bronchi over both chests. August 7th, Dr. Bowditch advised thoracentesis, which was accordingly performed by him, and three and two thirds pints of a clear, serous fluid were withdrawn from the right chest, in which the microscope failed to detect any pus cells. Tapping was repeated by Dr. Knight on the same side at three subsequent dates, and from two and one half to three and one half pints of fluid of the same character as at first were drawn off each time. Fluid was thought to be present also in the left chest, but not in sufficient quantity to require its removal.

The patient continued to grow steadily weaker. Pain, after a time, became a very persistent and troublesome symptom, located chiefly in the dorsal region behind, and in the left hypogastrium. There was no pain of any consequence in the chest, though it was quite sensitive to percussion. Cough, though subject to occasional exacerbations, was not at any time a prominent symptom, and the sputa remained scanty and of a mucous character.

At one time there came on a remarkable eructation of gas from the stomach, the patient belching it up in such quantities as at times to interfere seriously with respiration; it seemed to bear no relation to the food ingested, but continued the same when all food was withheld. It resisted all treatment for some time, but was finally relieved by the inhalation of ether. It was thought that this symptom might have a nervous origin, coming under the head of the neuroses. The nights were very distressing; the patient could not lie down in bed on account of the orthopnœa and pain in the back and side, and slept at short intervals, in a half-sitting posture, with head and shoulders supported by a French's apparatus. Finally he showed a tendency to pass into a condition of stupor, and died in an attack of this nature on the morning of October 2d.

Autopsy by Dr. Marcy, fifty hours after death. Rigor mortis not very marked. Dark purple spots on hands, particularly on the left hand, from the size of a pea to that of a quarter of a dollar. Dependent portions of body dark from hypostatic congestion. Tissues over sternum œdematous. Sternum closely adherent to diseased mass below for three quarters of its extent, and tissues between fourth, fifth, sixth, and seventh ribs infiltrated with new growth. Five pints of a clear, straw-colored fluid taken out of right chest. Right pleura-costalis normal. Three and one half pints of fluid taken from left chest, delicate adhesions between pleural surfaces on this side, and pleura-costalis deeply injected. Pericardial fluid slightly increased in quantity. Heart normal. Lungs with new growth removed entire, and with difficulty, being everywhere adherent over upper portion of thorax. Weight of mass removed six pounds. Left lung compressed, upper portion by tumor, lower portion by fluid. Several pea-sized masses of infiltrated new growth in upper lobe, otherwise healthy. Upper lobe of right lung fused in a mass of tumor, and perhaps infiltrated by it; a portion of its tissues normal, but solidified by pressure; lower portion compressed, otherwise normal. Lying chiefly in the right mediastinal space was a very firm, hard, whitish mass; this compressed the trachea from behind forwards, so that its walls were nearly in contact. The arch of the aorta was completely surrounded and compressed in the same direction as the trachea. Three quarters of the pericardium was encased by the growth as by a cast. The mass cut with a firm resistance and a gritty feel. On section it showed plainly an alveolar structure, with points of fatty degeneration, in places infiltrated with a dark pigment, similar to that of the bronchial glands. The lesser curvature of the stomach was depressed by a growth of a similar character, about the size of the fist. The mesenteric glands in large numbers were infiltrated. The spleen measured five and one half inches in length by four inches in width, and was considerably increased in weight; it contained several nodules, from the size of a pea to that of an English walnut. Kidneys normal. Liver somewhat enlarged, and markedly fatty. Thyroid gland not examined.

Specimens were sent to Dr. E. G. Cutler, of Boston, for examination, who reported as follows: "The lung was not diseased. There was an enlarged and knobbed condition of the bronchial glands, and on bisecting the tumor composed of them it was distinctly seen to be composed of single, more or less oval bodies, which had run together. The portion examined was in the uppermost part of the thorax, and extended around the bronchial tubes, compressing one somewhat, following them into the lung, and always being distinctly separable into single distinct glands. These had enlarged and become fatty or caseous in the centre; the enlargement had not confined itself to the gland, but there was a periadenitis which had enlarged each individual gland. In other words there was a proliferation of gland tissue (lymphatic gland) which did not confine itself to the ordinary wall of the same, but broke through and extended its boundaries. There were secondary deposits in the spleen. On microscopic examination of the structure in the chest and in the spleen it was found to be histologically a lympho-sarcoma, with the connective-tissue portion predominating. Therefore the case was one of lympho-sarcoma of the bronchial glands, with a secondary metastasis in the spleen (very common), all consecutive to the same enlarged and diseased condition of the glands in the neck."

In giving the history of this case the details of treatment have not been entered into; the indications were simply to sustain life and relieve suffering, and these were carried out so far as was possible.

The diagnosis was a matter of some difficulty. By Dr. Knight the case was believed to be lympho-sarcoma of the bronchial and mediastinal glands, and this opinion was maintained by him to the end. The prognosis was not a question of any doubt. Most of the symptoms present in the case are readily explained by the pressure of the diseased growth on the air-passages, and on the important vessels and nerves within the chest, giving rise to the disturbances of respiration, the interference with the circulation, etc.

RECENT PROGRESS IN DERMATOLOGY.

BY JAMES C. WHITE, M. D.

Faulty Innervation a Factor in Skin Diseases. — Dr. Wigglesworth discusses this question in an article,[1] in which, after citing many examples previously reported by observers, he gives a detailed account of two cases of injury to the nerves of the arm, which was followed by prolonged tissue changes in the integument of the hand.

Warts for Skin-Grafting. — Dr. Leale, of New York, reports[2] a case of extensive burn of the foot which could not be made to heal under ordinary surgical appliances, its surface of granulating tissue remaining irresponsive even to epithelial scrapings. He then removed two large warts from the patient's hand by transverse incision through their proximal parts, tore each wart into quarters in the direction of its papillæ, and planted the eight pieces in little cuts at equidistance about a line below the level of the granulating tissue. The wound was then covered with lint spread with balsam of Peru ointment. Two days afterwards the grafts were found alive, and they continued to grow until they were joined together, forming a continuous covering to the wound. The cicatrix, when formed, measured three by four and a half inches. Attention has already been called to the new formation of epidermis by the transplanting of hairs.[3] If success in this case were due to the overactivity of the cells in the papillary growth employed, it might be worth while to make trial in similar cases of the cells in a state of excessive hyperplasy, as found in the efflorescence in psoriasis, for instance.

Inoculability of Skin Diseases. — Vidal, in a communication to the Geneva International Congress, gives[4] the results of his experiments in this comparatively new field of research, which he has been cultivating for several years. They may be briefly stated as follows: ecthyma he finds to be both inoculable and auto-inoculable. All varieties recognized by authors he has been successful with. Fluids taken from the new pustules may be successively cultivated until a fourth or fifth generation is obtained. The third crop is generally incomplete, and the fourth succession insignificant. He regards it as a well-marked generic affection, and patients inoculate themselves, he believes, by scratching. With impetigo contagiosa he has also been successful as to its auto-inoculability in more than half his attempts. With herpes labialis and preputialis he made more than twenty experiments, but succeeded only in two. Upon a healthy person he obtained no results. He has never obtained a second generation, but states that Douaud has. He believes, therefore, that herpes is only exceptionally inoculable. Pemphigus in its ordinary form he has not been successful with in the two cases experimented on, and he doubts the possibility of its auto-inoculation. With the epidemic form of new-born children, however, success is easily obtained, and this explains, in his opinion, its supposed contagious character. It is both inoculable and auto-inoculable, and bullæ of the second and sometimes of the third generation may be produced. The diseases with which Vidal has failed to obtain successful results are eczema, zoster, "vesicular hydroa," and molluscum contagiosum.

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[1] Hospital Gazette, March 1, 1878; also account of nerve section in one of the cases by Dr. J. J. Putnam in Journal of Nervous and Mental Disease, July, 1878.

[2] New York Medical Record, September 7, 1878.

[3] See JOURNAL, June 1, 1878.

[4] Annales de Dermatologie et de Syph., tome ix., No. 5.

The Pathological Histology of Psoriasis. — Dr. Robinson, of New York, publishes[1] under this title another of his valuable contributions to our knowledge of the structural changes in skin diseases. He finds in the early stage of the disease (P. guttata) that the papillæ are but very slightly developed, although apparently increased in size, owing, as he believes, to a growth downwards of the Malpighian layer in its interpapillary portion. In the papillæ and surrounding part of the corium the blood-vessels are enlarged, and round bodies are seen, which in his opinion are epithelial cells in process of growth. The universal hyperplasia of the mucous layer he regards as the primary step in the process, and an independent one, preceding the enlargement of the blood-vessels and papillæ. Within the papillæ, in addition to the enlargement of the capillaries, transudation of serum and the presence of numerous white blood corpuscles were observed. In the external root-sheath of the hair follicle a similar hyperplasia was found, especially at the root. In the more advanced stages of the disease the rete cells continue to be excessively produced and to spread farther inward, the blood-vessels to dilate, and the surrounding cell infiltration and œdema to extend farther and deeper into the corium. During the period of disappearance of the disease the dilatation of the vessels and the cell infiltration along their course diminish, the Malpighian prolongations becoming smaller, until the hyperplasy wholly and latest disappears.

Dr. Robinson calls attention to the absence of all cell infiltration into the connective tissue apart from the immediate neighborhood of the blood-vessels, in which respect the affection differs from eczema. Indeed, he regards psoriasis as not an inflammatory disease of the papillæ or upper corium, but, as above stated, primarily a hyperplasia of the rete mucosum. Like Auspitz, he, too, assigns to this portion of the epidermis the independent power of cell development and of a downward growth into the corium.

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[1] New York Medical Journal, July, 1878.

Is Psoriasis a Parasitic Affection? — It seems almost incredible that this question could be raised in a legitimate way, and by one occupying a conspicuous place among modern dermatologists. Nevertheless Professor Lang discusses it[1] at length, and with apparent good faith. Knowing well that the ordinary means of determining such questions furnishes, when applied in this instance, a negative answer, he proceeds to study what clinical points it has in common with vegetable parasitic diseases. The result is a most ingenious comparison of the close resemblance in many respects which exists between them. It shows that psoriasis might very well consistently be a parasitic disease if it only were, but he does not show that it is, and the microscope shows positively that it is not.

Carbolic Collodion in Psoriasis. Dr. Galuzinsky, of St. Petersburg, recommends[2] that the affected portions of skin be brushed over with one part crystallized carbolic acid dissolved in four parts of collodion. The application need not be repeated as long as it remains fixed to the skin. Pain follows, lasting ten or fifteen minutes. In a few days the eruption appears smooth and shining. The treatment must be continued as long as the skin is red or infiltrated, and may require three or more months. Where the disease is extensive the application should be made to cover all the parts gradually, for fear of poisoning.

Pyrogallic Acid in the Treatment of Psoriasis. — Jarisch[3] has been led to try the action of this substance upon the skin in psoriasis on account of its near chemical relationship to chrysophanic acid. In thirteen cases he obtained results with a salve, one part to four, fully as favorable as with chrysophanic acid salve of twenty per cent. strength, and without any accompanying dermatitis.

Local Treatment of Eczema. — Dr. Piffard, professor of dermatology in the New York University, in a recent article[4] on this subject, advises the hypodermic injection of arseniate of sodium into patches of infiltrated eczema. He uses solutions of one fifth, one half, and one per cent. For a single patch of moderate size a single injection of five to ten minims of the one per cent. or one half per cent. solution is made. If the patch is larger, or if there are several of them, the weaker solutions are employed, and two or more punctures made in the larger patches or distributed among the smaller ones. The injections are to be repeated at intervals of two or three days. He has seen no undue reaction from them. Another method employed by him to reduce infiltration is the application of some of our native "acro-narcotics" to the affected parts. Among these hydrastis and its derivatives occupy in his opinion the first rank, and next in usefulness the iris versicolor. Of the latter he makes a tincture from the root, and rubs this up with simple ointment until the alcohol has evaporated. By these means he believes the absorptive function of the capillaries is stimulated.

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[1] Vierteljahresschrift für Derm. und Syph., v. Jahrg., 3 Heft.

[2] Cincinnati Lancet and Clinic, October 5th, from Med. Wochenschrift, No. 33, 1877.

[3] Vierteljahresschrift für Derm. und Syph., v. Jahrg., from W. med. Bl., No. 7, 1878.

[4] Medical Record, October 26, 1878.

The Treatment of Eczema by the Glycerole of Lead Acetate. — Drs. Duhring and Van Harlingen, of Philadelphia, have been testing the action of this substance upon the skin in eczema, as advised by Squire. They give[1] the results of its use in fourteen cases of the disease, by which they are led to the following conclusions: It is a valuable addition to the therapeutics of certain forms of chronic eczema, particularly e. rubrum of the lower extremities. It is most useful in those cases where the affection is extensive, of a dusky hue, accompanied by much weeping and infiltration of the skin, together with swelling and œdema of the subcutaneous tissues, and a full and varicose condition of the venous circulation. In such cases glycerole of the subacetate of lead, used with diligence and followed by careful bandaging, constitutes a remedy of the highest value. It has, however, no anti-pruritic qualities, excepting in so far as it may reduce the œdema, which sometimes seems to give rise to pruritus. Nor has it any resolvent effect upon infiltration of the more superficial layers of the integument. In this respect it fails just in those cases and at that stage of e. rubrum where the skin is no longer acutely inflamed, but is thickened, indurated, and pruriginous; in other words, where ordinarily the preparations of tar and potash are most useful. It fails, moreover, to exert a favorable influence in those cases of e. rubrum where the disease shows itself in numerous variously-sized superficial patches, and where the deeper layers of the skin do not appear to be affected. With regard to its effect in the vesicular and squamous varieties, it is less favorable as the case departs from the typical form of e. rubrum. Occasionally it is found to disagree with the skin, but not nearly so often as in the case of glycerine.

Oleate of Zinc in Eczema. — Dr. Crocker reports[2] the successful treatment of several cases of this affection with oleate of zinc ointment. Its most striking effects are seen in the discharging stage, and it never is over-stimulating in its action. It is prepared by stirring together one part by weight of oxide of zinc with eight fluid ounces of oleic acid, and after letting it stand two hours heating it until the zinc is entirely dissolved. On cooling it forms a yellowish-white, hard mass, which can be made into a soft ointment by the addition of one part of vaseline or olive oil, or two parts of lard. With the former it does not become rancid. It may be applied to the diseased skin spread upon cloth or thin paper, after the method of using diachylon ointment.

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[1] Philadelphia Medical Times, August 3, 1878.

[2] British Medical Journal, October 26, 1878.

Rubber Bandages in the Treatment of Eczema and Ulcers. — Dr. Bulkley, in a paper[1] read before the New Hampshire Medical Society, gives the results of his experience with the solid rubber bandage of Dr. Martin, not only in chronic ulcers of the leg, as first recommended by the latter gentleman, but also in several forms of eczema of the part, detailing twenty-seven cases. The bandage is made of pure rubber, should be ten or twelve feet long and about three inches wide, and provided with firmly attached tapes at the free end. It should be applied in the morning before the patient leaves the bed, and not too tightly at first, the object being to support the relaxed tissues of the skin and its vessels, not to check the circulation. One or two turns should be taken around the bottom of the foot, and then avoiding the heel the bandage should be wound about the leg without "reversing" up to the knee, where it is to be secured by the tapes. There should be nothing between the rubber and the skin. At bed-time it is to be removed, carefully washed with water until perfectly free from the retained perspiration and discharges from the diseased skin, and left unrolled to dry over night. For the first day or two it may cause some discomfort to the patient, but afterwards is worn without inconvenience. We can vouch that it will be found to be serviceable in many cases of chronic eczema, especially in those accompanied by deep infiltration and in those dependent upon a varicose condition of the blood-vessels. Dr. Bulkley states that he has applied it with benefit even in acute and subacute forms of eczematous inflammation. Of its great service in the majority of cases of chronic ulcer of the leg both Dr. Martin and Dr. Bulkley offer abundant testimony. The bandage should be worn in all cases for some little time after the cure seems complete.

Acne. — Dr. Fox, of New York, in a paper[2] read at the recent meeting of the Dermatological Association, presents his views upon the proper use of this term, with which we think most modern students of dermatology will agree. He would restrict it, like Hebra, to the purely inflammatory affections of the follicles, and would remove from close alliance with it the affection commonly called acne rosacea, a condition characterized by a new formation of vascular and cellular tissue, and in which the sebaceous glands are often only secondarily disordered. The above association, in its recently published system of classification, have removed it from the "inflammations" and placed it under hypertrophies of connective tissue.

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[1] Archives of Dermatology, July, 1878.

[2] Archives of Dermatology, October, 1878.

In a recent lecture[1] upon the general treatment of acne, Dr. Taylor, of New York, gives most excellent practical advice for the management of all forms of the disease, publishing many formulæ which he has tested fully. He believes in the use both of internal and external remedies in the majority of cases, and relies mostly upon alkalies and arsenic among the former, not even failing to commend mercury in some cases. As Dr. Taylor says, the successful treatment of acne depends largely upon attention to details, so it would be unfair to attempt to give an account of this valuable lecture without presenting his views in such detail as our space does not permit. Some day we hope to see published side by side the results and duration of treatment in two series, fifty each, of cases of ordinary acne, in one of which only local remedies, in the other mixed treatment, have been employed.

(*To be concluded.*)

THE AMERICAN PUBLIC HEALTH ASSOCIATION AT RICHMOND.

THE YELLOW FEVER CONFERENCE.[2]

The yellow fever commission unanimously reported their preliminary conclusions on the second day of the meeting, and these are given entire from the fact of their positive statement of points still in dispute even in New Orleans, after a very incomplete investigation occupying only about a month's time, and because of their not containing a single allusion to the sanitary condition of any of the towns visited, bad as that is very well known to be, and important as most sanitarians consider it in estimating the causes of an epidemic or the means of preventing future outbreaks.

(1.) We have not in a solitary instance found a case of yellow fever which we could justifiably consider as of *de novo* origin, or indigenous to its locality.

(2.) In respect to most of the various towns which we visited, and which were points of epidemic prevalence, the testimony showing importation was direct and convincing in its character.

(3.) The transmission of yellow fever between points separated by any considerable distances appeared to be wholly due to human intercourse. In some instances the poison was carried in the clothing or about the persons of people going from infected districts. In other instances it was conveyed in such fomites as cotton-bagging, or goods of some description, or bedding and blankets.

(4.) The weight of testimony is very pronounced against the further use of disinfectants. Physicians in infected towns, almost without exceptions, state that they are useless agents to arrest the spread of yellow fever, while some of them affirm that their vapors are seriously prejudicial to the sick.

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[1] Seguin's Series of American Clinical Lectures, vol. iii., No. x.

[2] Concluded from page 699.

(5.) Personal prophylaxis, by means of drugs or other therapeutic means, has proved a constant failure. A respectable number of physicians think the use of small doses of quinine of some use in prevention.

(6.) Quarantines established with such a degree of surveillance and rigor that absolute non-intercourse is the result have effectually, and without exception, protected those quarantines from attacks of yellow fever.

The third day of the session, after a breezy discussion of the right of the assembly to refuse to listen to a repetition of uninteresting details, and after the reference of several resolutions to the proper committees in order to save time, was devoted chiefly to the consideration of reports of personal experience with regard to the recent epidemic.

Colonel Hardee, sanitary engineer, gave an interesting account of the topography of New Orleans. The city has probably a population of not far from two hundred and thirty thousand. Its death-rate is high, but that subject was not reported upon in any of the papers read, and it is not easy to get at the particulars with regard to the matter. From February to May inclusive New Orleans lies below the level of the Mississippi River, being protected from inundation by levees. There is no under-ground drainage; about one mile in ten of the streets is well paved; the surface sewers are usually of wood in various stages of decay, allowing a varying amount of deposit of filth, according to the absence or not of rains;[1] the sewage and surface washings which do not soak into the ground collect in inadequate surface canals or reservoirs, to be pumped by four machines into open ditches leading ultimately into Lake Pontchartrain, about ten miles distant, where there is only a slight tide; but there is really a considerable soakage into the marshes back of the city, where a rank vegetation is produced. Garbage is in many cases thrown into the back yards or streets when not carried to a dumping ground in the vicinity of the low lands. The ground-water lies from two to four feet below the surface of the soil, and the numerous privy-vaults with imperfect brick walls and bottoms of earth render universal contamination of the soil inevitable. Water-closets are not in general use except in some of the hotels. The water supply from the Mississippi River is seldom used for drinking, inasmuch as it would require careful filtration for that purpose, but cisterns to collect and store unfiltered rain-water are chiefly depended upon; so that few people in New Orleans drink water which is free from a considerable degree of organic impurity. In a reply to a question, Colonel Hardee said that New Orleans is "generally a filthy city." So far as his observations went, yellow fever was not most prevalent nor most fatal in the dampest and filthiest localities, — a fact which corresponds with the known natural history of the disease. He suggests the propriety of frequently flushing the streets and gutters with an abundance of water from the river as a temporary expedient.

President Choppin, of the Louisiana State Board of Health, read a very clear and carefully prepared paper, in which he stated that "the sanitary condition of New Orleans has never been what a civilized community should have it be." He endeavored to show that the yellow fever of 1878 was introduced by the steamer Emily B. Souder, on May 23d, in the persons of two petty officers who died, according to their physicians' certificates, of bilious remittent fever, and of whom one boasted that he had beaten the quarantine officer by pretending that he had neuralgia. Dr. Choppin made an autopsy of one of them, as the result of which he is positive in his belief that the case was yellow fever. The other man died at two o'clock in the morning, and was hurriedly buried eight hours later without the usual public announcement. The cases originating in New Orleans occurred toward the middle of July, so that we must allow for an incubative period of six weeks on that explanation. We might suppose that other unobserved cases were introduced later, for which the incompleteness of the quarantine and the dishonesty of those trying to evade it furnished abundant opportunity. Indeed, Dr. Choppin said that he had rarely seen a vessel which did not present to the quarantine officer a clean bill of health, and he gave repeated illustrations of the way in which skillful rogues could run through the best quarantine in spite of the most honest and competent officials. This summer, too, the quarantine, although far from being efficient, was better enforced in New Orleans than ever before.

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[1] Some of these facts were learned from replies to inquiries and in private conversation.

After showing that the germ hypothesis explains the phenomena of yellow fever better than any other, and proving to his own satisfaction that the disease never develops spontaneously in the United States, Dr. Choppin stated his belief that the specific poison travels progressively and at no great distance from the ground. Sprinkling the earth with carbolic acid, which got the credit in New Orleans and Washington of having cut short an epidemic a few years ago, apparently did no good, although the health officers appeared unwilling to give up the idea that if the supply of carbolic acid were unlimited, and every germ could be isolated and treated with it, yellow fever could be thus at any time stamped out. In a word, while Dr. Choppin is not ready to say that disinfectants do no good, he considers them too feeble a weapon to be replied upon in great emergencies. According to his estimate, one half of the population of the city, whose labor was of any value, gave up their usual occupations for ninety days; there was almost an entire stoppage of commercial relations between the portions of the country invaded and the rest. The loss to New Orleans alone is calculated by him to have been approximately as follows: —

Estimated number of cases of yellow fever	25,000
Cost of ten days' sickness to each one at $3	$750,000
Cost of 4500 funerals at $25 each	112,500
About two fifths of victims represent each a capital value of $1000, amounting to	1,800,000
Remaining three fifths at $300	810,000
Loss of time of half the industrial population — say 20,000 people — for ninety days at $2 per day	3,600,000
Values destroyed by the epidemic	7,072,000
Commercial losses by interruption of intercourse with the surrounding country and diversion of trade to other cities	5,000,000
Total losses	$12,072,000
Estimated profit of the summer trade with ports where yellow fever usually prevails	$1,500,000
Difference, or cost of the epidemic	$10,572,000

That is to say, New Orleans probably lost enough money in a single year to have supplied the city with pure water in abundance and with good drainage. Dr. Choppin apparently does not place filth in air, soil, and drinking-water very high in the causation of yellow fever; he considers it eminently an imported disease, whose germs cannot survive the winter cold of that climate, and he is fully convinced that no ordinary quarantine can effectually keep it out. He therefore is driven to his conclusion that the only resource is in absolute commercial non-intercourse from the first of April to November with those places, notably Havana, where yellow fever prevails. According to his own theory, however, even then the latent germs might be brought indirectly by vessels from ports not infected which trade with Havana, or by smugglers through any of the numerous bayous and creeks by which the ports of the Lower Mississippi are more or less easily accessible. Dr. Austin, of the New Orleans Board of Health, read a paper in the main agreeing with Dr. Choppin.

Dr. Richardson, of the University of Pennsylvania, and Dr. Robert White, of the marine hospital service, made microscopic examinations of the blood and parts of the internal organs of persons who had died of yellow fever, but found nothing which they considered as certainly characteristic of that disease. There were many more bacteria in the blood than are commonly found, and the smaller tubules in the kidneys were crowded with micrococci, a point in their opinion deserving further examination. Dr. White's report on the nature of contagion in connection with the phenomena of yellow fever was so excellent a statement of our knowledge on that subject that it is very desirable to have his investigations continued.

In the evening Dr. Ezra M. Hunt, president of the New Jersey State Board of Health, read a clear and forcible essay on the method of studying an epidemic; it contained nothing new, but was so full of careful thought and practical suggestion that it might have been studied a month before the meeting to great advantage. An exceedingly pleasant reception by Governor Holliday closed the evening.

On Friday, the fourth day, Dr. Cabell, of the University of Virginia, was elected president of the association, Drs. J. S. Billings and S. Choppin were chosen first and second vice-presidents, and an executive committee of working men was secured for another year. Many short papers were read, generally strongly in favor of quarantine or of the importation theory, etc., but not possessing the character of thorough, impartial inquiries. Indeed, when Dr. Holliday, of New Orleans, read a paper criticising the one-sided character of the evidence which had been presented, and showed that there were very many serious gaps in the testimony to prove that the epidemic of this year was of foreign origin, although not committing himself to any theory until after a scientific investigation and statement of the whole case, he evidently "staggered" the newspaper reporters who made him in favor of local origin and spontaneous development.

In the JOURNAL of last week a wish was expressed for a better explanation of the exemption of Nashville than that it was spared by a kind Providence; later we got it. It seems that the Board of Health cleaned up their city a couple of months before the epidemic appeared; a process which consisted in removing only the most evident filth on the surface, — for it is clear that the polluted soil could not be purified in that time, — in isolation of the infected refugees, and in disinfection of the trains arriving in the city. But when, after the reading of the papers, it proved on inquiry that the disinfection consisted in doing nothing to the freight cars, and in the use of bromo-chloralum for the passenger carriages, there began to be a doubt whether the explanation was an explanation after all, and whether the sanitation of the city was likely to have been any more efficient than the disinfection of the cars.

In Memphis, where the disease was especially virulent, clothing, bedding, etc., were removed to the streets to be burned; and it was suggested that the very attempts at thorough disinfection might have been a means of spreading broadcast the germs of disease.

A gentleman from Huntsville, Alabama, ventured the suspicion that filth was the most potent of the causes of yellow fever in one of the cities, when he was immediately met with the statement that his own town was as bad, for they had cholera in 1873, and diphtheria now; but it seems that the town officers had asked the physicians the cause of the cholera in 1873, and got the reply that it was filth. They introduced better drainage at once, kept a cleaner town, and attribute the failure of yellow fever to spread this year to that fact. The filth theory was evidently an unpopular one, but Dr. Atchison, of the Tennessee State Board of Health, insisted upon its preëminent importance, and Dr. A. N. Bell, a recognized authority on yellow fever, strongly held to that view, forcibly stating that non-stinking filth in the ground may be in some cases as seriously prejudicial to health and as favorable to epidemics as more obvious filth that stinks on the surface. But what could be said to any one who considers Vicksburg, with its privy-vaults in the earth, its impure water supply, surface drainage, and stagnant water-bed in front, to be "in perfect sanitary condition"? Dr. Bell held that the importation theory was by no means proven so far as the Gulf portions of the United States are concerned.

Dr. R. S. Steuart, of Baltimore, gave an interesting account of his stamping out what threatened to be a serious epidemic of yellow fever in 1876. He placed a cordon of police around the infected quarter, and at once established absolute non-intercourse with the remaining portions of his ill-drained city. All clothing, bedding, etc., were destroyed by fire; the inhabitants were all removed, and kept isolated until the sick got well or died, and those not infected had passed beyond the incubative period of the disease. The houses, passage-ways, etc., were disinfected, and the occupants were not allowed to return to their homes until cold weather. The city escaped with the loss of only forty lives.

Drs. Gihon and Turner, of the United States navy, made some sensible remarks about the filth of ships, especially the foul bilge-water, as predisposing to yellow fever, showing that absolute cleanliness is almost a sure preventive, and that an infected ship remains a source of danger for years even, if it is not put in proper order. Dr. Gihon thought dry, superheated steam or excessive cold the only complete disinfectants for thoroughly infected vessels.

It was unfortunate that the questions of temperature, rainfall, humidity of the atmosphere, conditions of the soil, etc., were not examined and reported upon in the several places. We heard almost nothing of such statistics.

The following propositions were presented by the committee to be voted upon: —

(1.) Yellow fever is a specific disease, not indigenous to or originating spontaneously in the United States, and its appearance in this country is always due to a specific cause.

(2.) Quarantine established with such rigor and precision as to produce absolute non-intercourse will prevent the importation of the specific cause of yellow fever.

(3.) It is the duty of the general government to aid in the establishment of a practical and proper quarantine by all means in its power.

(4.) It is the duty of the general government to appoint a commission of experts to make a thorough investigation into the causes of yellow fever, and the best methods of preventing its introduction into this country, and to make such an appropriation as will permit of the securing the services of the best men, and the best means for carrying out such investigation.

(5.) That it is the duty of the general government to invite foreign nations to coöperate with it in the establishment of uniform and effective international quarantine regulations.

(6.) That whatever may be the practical value of quarantine, there is no doubt of the importance and value of internal sanitary measures in the prevention or modification of epidemic yellow fever, and that this association strongly urges upon state and municipal authorities the great amount of responsibility which rests upon them on this account at times when no disease is prevalent or threatening.

The first proposition created lively discussion. Some were opposed to the statement itself, while Dr. Howard, of the commission, Dr. Bell, and others, objected to its passage as premature and unscientific in method, which would not reflect credit on the meeting. In the quiet side talks it was urged that it must be passed to satisfy the Northwestern States, that the South demanded it, and that without it we could not get legislation from Congress. It was finally amended, on motion of Dr. Gihon, to read as follows, and was adopted by a vote of twenty-three to eleven, although strongly objected to by some members: —

(1.) Yellow fever of 1878 was a specific disease, not indigenous to or originating during that year spontaneously in the United States; and its appearance in this country was due to a specific cause.

There was no serious objection to any of the others, except on the part of a few who did not wish any resolutions passed until a more thorough investigation had been made. Number six was sent in late as an additional proposition.

The association elected many new members, and passed resolutions of thanks to Mrs. Thompson, who generously gave the money to carry out the investigation by the commission, and to the governor and other gentlemen of Richmond. The commissioners were commended; a chair of public hygiene was recommended in every medical college in the country; a national board of health was unanimously advised, and a committee of one prominent gentleman from each State was nominated to act with officers in Washington to urge its appointment; a memorial to Congress was voted for an international arrangement with the Spanish government to investigate yellow fever in Havana, and to secure their coöperation to abate the disease. Dr. Billings's questions regarding the disease-rate for the next census returns and the cataloguing of the library in the surgeon-general's department were approved, and committees were appointed to urge their adoption. More humane methods of transporting live stock were asked for, and the committee on resolutions voted to request an inquiry into the causes and prevention of venereal diseases.

Dr. Harris's recommendation that each state board of health be entitled to one seat in the council of the society, and that these boards report vital statistics as far as possible, was also approved.

Our countrymen are too fond of making speeches, and occasionally a little too much clerical gush and Fourth-of-July oratory were indulged in for a deliberative assembly; but there was only one premeditated "burst of eloquence," and it was gratifying to find that one received by quiet smiles and faint applause. There was more clear, concise expression of views than one sees in similar societies in England or Germany. The social aspect of the whole affair was extremely agreeable. Men interested in the advancement of sanitary science had excellent opportunities of conversing with their co-workers from all parts of the country, and in getting invaluable information from one another. In that sense, the meeting was, in the highest degree, profitable. It certainly will long be remembered as the source of many delightful friendships and as a frequent reminder of the cordial good feeling throughout our profession.

THE MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

A DISEASE which appeared, or at least was recognized, in Boston earlier than in New Orleans, which has increased in prevalence as our commerce with the West Indies has become more extensive, which has failed to visit us as an epidemic while that commerce has been for a time interrupted, — a disease, generally speaking, of cities and towns on the sea-coast, or not very high up on navigable rivers, where the summer heat day and night reaches a temperature of about 75° or over, seldom invading small villages or rural districts, and associated in Havana, its chief seat of endemic prevalence, with the grossest forms of filth, — has, during the past year, appeared in eighty villages and cities of the United States, often with the fatality of the black death of the fourteenth century, spreading desolation and terror in its path, met not seldom with the inefficient and uncertain sanitary measures of experiment, and everywhere falling where the now known laws of public health are openly neglected. In Philadelphia it decimated the city toward the close of the last century. Now it is no longer feared there, nor in those other cities which have introduced pure water supplies and tolerable sewerage. If not essentially a filth disease, as many competent observers consider it to be, it has visited in severe form chiefly filthy ships or filthy places, although, unlike intermittent fever, its chief seat is often in the higher and less moist parts of a city, where there are also usually less obvious filth and a more susceptible population. This year it has been so widely prevalent in small towns and large, and under such a variety of circumstances, that there probably never have been in this country better opportunities for the thorough investigation of its ætiology, pathology, diagnosis, and prevention.

A commission has been appointed to investigate the epidemic. Perhaps it was not fair to have expected much from them so early, but it was certainly hoped that they would adopt a broad scientific method of inquiry, and do impartially and with a judicial weighing of negative as well as positive evidence the little which they had time to accomplish. The Public Health Association received their preliminary report with the resolution that it is the duty of the general government to appoint a commission of experts to make a thorough investigation into the causes of yellow fever and the best methods of preventing its introduction into this country. The meeting of the American Public Health Association has not in itself been attended as yet with any thoroughly satisfactory results, except in so far as steps were taken to establish a national quarantine and an advisory board of health. This has been due chiefly to a bad method of working. A multiplicity of papers are handed in at the last moment, often hastily written, and taking their chances of being read in the rush; the only thing that an overworked executive committee can do being to sift out the best reports as well as they can. There was an excellent opportunity of doing a public service if a systematic line of inquiry had been adopted, covering a few important points, and if certain persons had been appointed to investigate minutely the facts of the epidemic as coming under their observation. This opportunity was lost, and there was not even a systematic basis of inquiry established for another year. Let us hope that this may still be done, and that the meeting in Nashville a year hence may be marked by thorough work well presented to a body of men free from strong bias and ready to accept coolly the results of an inquiry exhaustive and impartial beyond any possibility of dispute.

Although we think that quarantine cannot keep out all cases of yellow fever, and that it is useless without intelligent and vigorous local sanitation to prevent occasional cases from finding a suitable soil for development and multiplication, and although we believe that too great reliance upon it tends to produce a fatal neglect of local sanitary measures, yet it is so useful that great masses of infective material can thereby be easily prevented from entering towns, and that, too, without placing any very serious obstacles in the way of commerce. That a quarantine will not, for the present at least, be effective as managed by the several States appears to us clear, and the high degree of efficiency of our marine hospital service is an assurance that a national quarantine could be as well managed. Indeed, the head of that service has good powers for organization and management; and it seems particularly desirable and appropriate that the quarantine should be under that branch of the government which has most to do with steamers and custom-houses. An advisory national board of health, if, like those of England, France, and Germany, not composed of doctors only, and if kept free from the political influences too apt to pervade all branches of our government, promises to be of immense service in spreading information in regard to sanitary matters where it is most needed. It seems to us that the American Public Health Association this year has failed signally to extend such knowledge, and indeed fully to grasp the great question presented to them.

We might refer to South America, where yellow fever prevailed, in 1871, in Buenos Ayres, a city of about the same size as New Orleans, with a mortality of one out of every nine persons in the city. Dr. Rawson's report states that the facts of bad drainage, bad water supply, bad soil, and abounding filth will be stated plainly, "not merely because science should be in possession of the whole truth," but also because the truth may serve a useful end in stimulating efforts to improve the public health. "Investigation was idle to show how the enemy entered;" the object was to prevent a second invasion. The method of attaining that end was to send to London for a distinguished sanitary engineer to construct an adequate system of drainage, and to introduce a sufficient supply of pure water. Until the same thing is done in all our cities in all parts of the United States, we shall be in constant danger from pestilences wherever the fundamental principles of sanitary science are neglected. With pumping, as by the new Boston system, New Orleans even can be easily drained into a very large river always having a rapid current.

Finally, and most important of all, what may be expected, in the way of preventing similar scourges in the future, as a result of this terrible epidemic and of the meeting to discuss it? From the paramount importance given to measures for securing a national quarantine, from the all but universal feeling expressed that yellow fever is not spontaneously developed in our Gulf States, — a conclusion which we do not dispute, but which we do wish to see established by satisfactory evidence, — from the general unwillingness to acknowledge that filth is one of the most important factors in the causation of epidemics of fever, and from a failure to perceive that a city without horrible stinks may yet be very filthy, we fear that the preventive measures to be immediately taken will encourage a reliance upon the general government, to the neglect of cleanliness, drainage, and supplies of pure drinking-water, without which, in our opinion, the most vigorous quarantine, even to absolute forbiddance of commercial intercourse, and the wisest possible board of health in Washington, would utterly fail to secure us against an occasional introduction of the specific yellow-fever poison and another visitation from yellow fever.

MEDICAL NOTES.

— At the meeting of the Public Health Association at Richmond, Dr. Richardson, of the University of Pennsylvania, and Dr. White, of the marine hospital service, read the result of numerous microscopic observations on the pathology of yellow fever.

On account of the sensational reports that appeared in the daily press from time to time of Southern physicians having found organisms of various kinds in large numbers in the blood of yellow-fever patients, Dr. White was deputed by the surgeon-general to report on the correctness of these observations, and visited the infected districts for that purpose, making his observations at the bedside of the patient, and transmitting duplicate specimens for examination to Professor Richardson, of Philadelphia.

No organisms bearing any direct relation to the cause of the disease were found in any of the secretions, but there was a considerable increase of those which normally inhabit the body, as would naturally be expected in the low state of vitality attending the acute infectious diseases. But in the tube casts excreted, and in the sections of liver and kidney examined with very high powers of the microscope, up to 2500 diameters, an extraordinary development of the low forms of life known as micrococci were found, in many cases completely blocking up the tubules and ducts.

The pathological significance of these the observers are hardly prepared to tate, but their presence in the canals through which the bile and urine are discharged suggests the possibility of their developing to such an extent, as was certainly the case in some of the specimens exhibited, as to prevent the outflow of these important secretions, and thus produce some of the most typical symptoms of the disease.

The short time allowed for the observations, and the intention to carry them out to a much greater extent during the ensuing months, prevent more definite conclusions at present.

Assistant-Surgeon Robert White, marine hospital service, read a paper on The Nature of Contagion: What is the Character of the Active Principle of Contagion by which Certain Diseases spread or are communicated from one Person to Another? of which the following is an abstract: —

The numerous and extraordinary ideas formerly held about the cause of epidemics were briefly noticed; also the fact that all were being rapidly supplanted by the hypothesis that in the acute specific fevers, at least, if not in most other diseases, the contagious element is possessed of vital properties, and has a particular form. He traced the growth of the germ theory of disease from the labors of Pasteur. That these particles possess vital properties may be properly inferred from the power of reproduction that they possess. This is an attribute of organic structure only, and does not attend any chemical or physical process that we know of. The smallest particle of the contagion introduced into the system will reproduce itself, and multiply as long as it finds in the surrounding medium the conditions necessary for its development. The portability of contagion is strong evidence of both its particular and vital character. Nothing else will explain how it can be retained under circumstances unfavorable for retaining gaseous substances, and when exposed to favorable surroundings can reproduce itself. The essential symptoms of fever are waste of the nitrogenous tissues, consumption of water, increase of temperature and of the rapidity of the circulation. There is a striking analogy between these conditions and those required for the development of the low organisms to which disease germs are supposed to be allied; and the germ theory supposes that their development in the system explains the symptoms of fever. The fact that these germs cannot be seen is no evidence against their existence. Organisms too small to be seen by the microscope may as well exist as stars too small to be seen by the telescope. It is now known that the epidemics of the plague and the small-pox that formerly decimated Europe did not arise spontaneously, and that while unsanitary conditions favor the extension of the disease in an enormous degree, they cannot originate it without the introduction of the specific germ. Most forms of contagion perish readily in pure air; therefore free exposure to the atmosphere is the best disinfectant. But the same experiments that demonstrated the particular character of contagion showed that some forms retained their power of infection for many months after being dried at a high temperature.

— Edward Hirschsohn, of Dorpat, has made numerous experiments in regard to the behavior of arsenious acid toward dialyzed iron. He sums up his results thus: "These experiments prove that *arsenious acid does not enter into combination with dialyzed iron*, either alone or in the presence of acids. The addition of ammonia or magnesia, however, causes the arsenic to enter into an insoluble compound. In consequence of the results obtained in experiments 31 to 40, I desire to warn against the use of dialyzed iron as an antidote in poisoning by arsenic, because the resulting combination parts with its arsenic in presence of acids much more readily than the ordinary antidote for arsenic." The details of these experiments will be found in *New Remedies* for November.

— Professor Lichtheim, of Jena, has accepted a call to Berne. Dr. F. Fürbringer, of Heidelberg, will take Lichtheim's chair at Jena. Dr. C. Mayerhofer, of Vienna, who is so well known to many of our readers, has left the city in which he has done such excellent teaching, and has established himself as a gynæcologist in an Asiatic city.

— The *London Lancet* takes very strong ground against the publication of reviews of medical books in lay newspapers, and urges upon the consideration of editors the fact that "when the literary production of one local practitioner is reviewed, his colleagues who have not rushed into print are placed at serious disadvantage. The man who has written a book must, it is supposed, be the better practitioner, whereas, perhaps, the truth lies in the opposite direction."

— Dr. Mannheimer (Chicago *Medical Journal and Examiner*, August) reports nine cases of whooping-cough which recovered in four to seven days under the use of intra-laryngeal insufflations of equal parts sulphate of quinine and white chalk. Six of the cases were in the spasmodic, three in the catarrhal stage.

— During a recent mountain excursion near Bormio two young Berlin physicians — Dr. Sachs, assistant in Professor Dubois-Reymond's physiological laboratory, and Dr. Salomon, assistant in Professor Frerich's wards — fell down a precipice. The former was killed; the latter escaped with a double fracture of the leg.

— We congratulate one of the witnesses in a recent case for malpractice upon the extent of his obstetric experience. He represents himself as having attended four thousand three hundred cases of delivery, and we are assured he is still a young man. The capacity of this gentleman for labors may be judged from the fact that were a student to spend his whole time in walking through the obstetric wards of the General Hospital in Vienna it would still require years to offer him a superficial observation of this number of puerperal women.

— A correspondent who was present at the recent meeting of the Health Association at Richmond writes as follows: "The lager beer is excellent, but there is the American vice of no chairs and standing drinks. Moffatt's bell punch, whereby the state revenue is enriched by one half a cent for every glass of malt liquor consumed, and by two cents and a half for every glass of spirit, was a new revelation to the majority of the visitors, and it was quite remarkable to see how many were curious to see how the thing worked."

— Drs. Milner Fothergill and Robert Barnes, of London, have been elected associate members of the College of Physicians of Philadelphia. The number of associate Fellows is limited to twenty. The other British associates are Sir R. Christison, Sir J. Paget, Professor Aclaud, Drs. J. W. Ogle, Peacock, and Hughlings Jackson.

NEW YORK.

— There having been a good deal of complaint made recently about the adulteration of refined sugars in this city, the United States government officers have begun an investigation of the matter. Collector Merritt, of the custom-house, thinks it the duty of the Board of Health to protect the consumers of sugar from the evil effects of poisonous adulterations, and he has recently issued an order that samples of refined sugars for export should be taken in duplicate, — one for preservation in the custom-house, and the other for purposes of analyzation.

— In the court of general sessions a presentment was lately made by the grand jury, in relation to the institutions upon Blackwell's Island, in which it was stated that 106,000 new cases were sent to those institutions during the last year; that although there is evidence that the Commissioners of Charities and Correction are laboring with diligence to overcome all abuses, there is "cruel overcrowding" in some of the asylums and hospitals, the Lunatic Asylum having last year 400 patients, with a capacity for only 250, and another building 126 patients, while it could only properly accommodate 66; and that it was desirable that either more accommodations should be procured, or the incurable patients be removed to other suitable quarters.

— During the past autumn a New York homœopathic practitioner of the "high potency" school has actually been engaged in bottling mosquitoes in New Jersey, with a view to employing them for therapeutical purposes. At the request of a celebrated exponent of the Hahnemannian doctrine in England, they were to be sent across the Atlantic to him, preserved in alcohol, and after their bodies had been duly "potentized" it was expected that the internal exhibition of the remedy would be a sovereign cure for mosquito-bite. That the preserved mosquitoes have been sent to England is an undoubted fact. Whether the results so sanguinely anticipated from the medicine will be realized, however, still remains to be seen

— The thirty-fifth annual meeting of the Society for the Relief of Widows and Orphans of Medical Men was held on the evening of November 27th, at the Academy of Medicine, when the following officers were elected for the ensuing year: president, Dr. Samuel T. Hubbard; vice-presidents, Drs. Jared Linsly, Isaac E. Taylor, and Samuel S. Purple; treasurer, Dr. J. H. Hinton. The financial statement of the society for the year ending September 17, 1878, is as follows: Balance on hand, $7478.36; income from all sources, $19,550.69; paid to annuitants, $4302.75; incidental expenses, $53.95. The total assets amount to $123,172.35. The society has 127 members and 27 benefactors, and during the past year has extended aid to twelve widows and four children of deceased members; the highest amount paid yearly to any one person in a family being $400.

— The thirty-second anniversary of the New York Academy of Medicine was celebrated the same evening, and the anniversary discourse this year was by Prof. Wm. H. Thomson, of the University Medical College. In consequence of the inclemency of the weather, the latter was postponed to December 5th.

— On Thanksgiving day, Mrs. Alfa Merrill, the wife of a New York physician, made her *début* upon the stage. She appeared at the Fifth Avenue Theatre, and assumed the character of Julia in The Hunchback.

SHORT COMMUNICATIONS.

THE NORTH GROVE STREET MORGUE.

Medical Examiner F. A. Harris writes a complaint to the city council about the condition of this building. He says: It is in a dilapidated condition, the underpinning falling away, the timber rotten, and the roof freely admitting water either from rain or melted snow. There is no sufficient means of ventilation in the room used for post-mortem examinations; neither is there anywhere sufficient light in the building. The floors are cold and damp. There is no adequate means of heating the room without making the room too hot to work in. Hot water, which is much needed, is provided only by heating the amount contained in a small receptacle in the stove. The table is far behind the times in the appointments necessary for the comfort of the operator. There is no closet in which to keep the jars, measures, scales, etc., necessary in many examinations. The room itself is too small. I am informed that there has been scarcely an expenditure for the building during the past twenty years, and my own serious illness from exposure while working there attests the utter inadequacy of the place for its purpose. It is now at best a cold, damp tomb, fit only to contain bodies before burial. As difficult scientific work is expected of the medical examiners, and as an average of a hundred and upward post-mortem examinations are like to be made every year for an indefinite time in this district, it seems as though a suitable place for such work should be provided, — a place where the examiner will not only work without risk to his life, other than the ordinary and irresistible dangers of such examinations, but where he may at least have sufficient light, ventilation, and drainage, heat, and the necessary conveniences for his work, such as are provided in hospitals or in the autopsy rooms of other cities, — a place where the operator may be able to work without doing so in an atmosphere impregnated with the odors of bodies in various stages of decomposition in the adjoining room, a condition of things which at present obtains in the Grove Street Morgue. The temporary repairs which have been made by your board during the past seventeen months have failed to do away with the chief troubles, and I am sure that an examination of the premises will convince you that the place is both unsuitable and dangerous to work in.

MALPRACTICE SUITS.

MR. EDITOR, — Are you aware that the practitioner you so strenuously defended in the last number of the JOURNAL is an irregular, a homœopath, recently expelled from the Massachusetts Medical Society? Yours truly, OBSERVER.

November 30th.

[We do not see what difference that makes in the legal merits of the case. — ED.]

OBITUARY.

SAMUEL HART, A. M., M. D. — It is with much regret that we are called upon to announce the death of this venerable physician on September 3, 1878, at the ripe age of eighty-one years, nine months, and six days, at Brooklyn, Long Island. We learn from the *Kings County Journal* that Dr. Hart was born in Wakefield, Mass., November 27, 1796. His father, John Hart, was a physician of note, who served as surgeon in the American Revolution, in General Prescott's regiment. He was at the battle of Bunker Hill, and continued in the service till the close of the war. Afterward he held the position of magistrate, and was a member of the Massachusetts legislature thirteen years.

Samuel Hart, the subject of this minute, was his youngest son, and was liberally educated in both the literary and medical departments of Harvard University, taking respectively the degrees of A. B., A. M., and M. D., in the years 1817, 1820, and 1821. He practiced until 1828 in Beverly, Mass., whence he removed to Oswego, N. Y., became a member of the Oswego County Medical Society in 1829, was afterwards one of its censors, then its recording secretary, and for one year its president.

In 1855 Dr. Hart removed to Brooklyn, where he has devoted himself to medical practice almost without interruption. He was elected to membership in the Kings County Society in 1858, became a censor in 18—, which office he filled at intervals during eight years, and in 1862 he was elected president.

Dr. Hart was made a Fellow of the Massachusetts Medical Society in 1824, and in 1857 a permanent member of the New York State Medical Society. He was also a member of the American Medical Association, the Massachusetts Society of the Cincinnati, the Long Island Historical Society. Dr. Hart was a man of strict moral integrity. With him *esprit du corps* was always dominant, and one of the last expressions of his life was in these words: "I love the profession to which I have given so many years of thought, and to which I gave my son John, who died so full of promise." He then pledged to the Medical Society of the County of Kings nearly all of his medical library, and, in consonance with his desire, a committee was appointed at the August meeting of this body to receive and properly convey this valuable bequest.

In social life Dr. Hart was in the best sense domestic. He married, in 1823, Miss Charlotte Newell, of Boston, who still survives him. One daughter and one son (now a druggist in Boston) are all that remain of five children. Those of our Boston physicians who remember him as a regular attendant at the annual meeting of the Society of the Cincinnati will hear of his death with great regret.

OBITUARY.

PROFESSOR ELI GEDDINGS died at Charleston, S. C., on October 12th, at the advanced age of nearly eighty years. Born at Newberry, his youth was spent in farming; removing to Abbeville he received a classical education. He subsequently studied medicine in the office of Dr. E. S. Davis about the years 1819 and 1820, attending lectures in the Charleston Medical School. When the Medical College of South Carolina was established, in 1824, he became a teacher in that institution, and has lectured from that time to the present, excepting at short intervals when absent in Baltimore at the medical school of that city. Dr. Geddings had a wonderful memory, and was an able lecturer and writer. He was founder and editor of the *North American Archives.*

At a recent meeting of the South Carolina Medical Society, held in honor of his memory, there was a large attendance, and addresses were made by many of the most prominent physicians of the State. Resolutions of respect were passed, and it was voted to secure a portrait of the deceased to be placed in the society's rooms.

Dr. Geddings was much respected by the community in which he practiced for so many years. One of his sons, Dr. W. W. Geddings, is a practicing physician at Aiken, S. C.

ABSTRACT OF THE BULLETIN OF THE PUBLIC HEALTH.

ISSUED BY THE SURGEON-GENERAL U. S. MARINE HOSPITAL SERVICE, UNDER THE NATIONAL QUARANTINE ACT OF 1878, FOR THE WEEK ENDED NOVEMBER 23D. No. XX.

OFFICE SURGEON-GENERAL M. H. S., WASHINGTON, *November* 27, 1878.

YELLOW FEVER IN THE MISSISSIPPI VALLEY. — Advices to the close of November 22d show the following number of new cases of yellow fever and deaths for the week ended on that day: There were 20 deaths in New Orleans, two deaths in Vicksburg, and two in the adjacent country, three at Delta, Miss., eight cases and four deaths at Mobile. The last case reported in Morgan City, La., occurred November 19th, the last death November 15th. During the two weeks ended November 22d there were four new cases of yellow fever and two deaths at Decatur, Ala., 33 deaths at Memphis, and two deaths at Cairo, Ill. The last case at Cairo occurred October 28th, and the last death November 15th.

It is advised that during the coming winter all of the rooms of every dwelling in the cities and towns which have suffered from yellow fever should be opened to the outer air for a sufficient length of time to subject them to a freezing temperature. Carpets, bedding, clothing, trunks, etc., should be exposed to the open air and to a temperature below the freezing point. Unless this is done, sporadic cases may be anticipated when the warm weather returns from yellow-fever poison, which is liable to survive the winter in dwellings which are are kept continuously at an elevated temperature.

BALTIMORE, MD. — For the two weeks ended November 23d the average annual rate of mortality in 1000 of the population, based on the weekly mortality, was 19.2. The deaths include six from enteric fever, eight from diphtheria, and six from scarlet fever.

BOSTON, MASS. — The average annual rate of mortality for the two weeeks ended November 23d was 21.9 per 1000. There were four deaths from enteric fever, 39 cases of scarlet fever and four deaths, 47 cases of diphtheria and 16 deaths.

BROOKLYN, N. Y. — During the week ended November 16th there were three cases of enteric fever and two deaths, 38 cases of scarlet fever and nine deaths, 56 cases of diphtheria and 19 deaths. The deaths from all causes show an average annual mortality of 20 per 1000 of the population.

CHARLESTON, S. C. — During the week ended November 16th there were 29 deaths from all causes, including one from diphtheria.

CHICAGO, ILL. — The average annual death-rate was 13.4 for the week ended November 9th. There were 11 deaths from diphtheria, two from scarlet and two from enteric fevers.

CLEVELAND, OHIO. — For the week ended November 23d there were three cases and three deaths from enteric fever, four cases and one death from scarlet fever, and 31 cases and nine deaths from diphtheria. There were 44 deaths from all causes.

CINCINNATI, OHIO. — During the week ended November 16th there were 101 deaths from all causes, being at the rate of 18.8 per 1000 of the population. There were 26 deaths from scarlet fever, and four from diphtheria.

MILWAUKEE, WIS. — The mortality-rate for the week ended November 16th was 10.5.

PHILADELPHIA, PA. — For the week ended November 16th the average annual rate of mortality was 16.8 per 1000. The deaths include seven from enteric fever, 15 from scarlet fever, and nine from diphtheria.

HAVANA, CUBA. — During the week ended November 16th there were 15 deaths from yellow fever, and six from small-pox. For the week ended November 23d there were 10 deaths from yellow fever, and four from small-pox.

ST. THOMAS, WEST INDIES. — For the four weeks ended October 31st there were 12 cases of yellow fever and eight deaths.

TRIPOLI, AFRICA. — A disease designated "febricula" by the local physicians prevailed during the six weeks ended October 28th, attacking 15,000 people out of a population of 20,000. No deaths have occurred. The attack lasts from six hours to five days, and leaves the patient in a very prostrate condition. The Arabs call the disease "the club," from the sufferers feeling as if they had received a severe beating.

VIENNA, AUSTRIA. — For the week ended October 19th, there were 325 deaths, being a mortality-rate of 24 per 1000. The deaths include nine from scarlet fever, and 18 from diphtheria. There were three cases of small-pox, and eight of enteric fever.

AMSTERDAM. — During the week ended October 26th there was one death each from enteric fever, typhus fever, scarlet fever, diphtheria. Total deaths 121. Rate of mortality, 20.8.

ANTWERP. — For the week ended November 2d there were 23 cases of enteric fever and four deaths. Total deaths 68. Mortality-rate 27.

ENGLAND. — Twenty large cities and towns having a population of millions show an annual rate of mortality of 22 per 1000 of the population. The deaths include four from small-pox, 200 from scarlet fever, and 19 from diphtheria.

GLASGOW. — For the two weeks ended November 2d there were 439 deaths from all causes, showing an average mortality of 21 per 1000. The deaths include 115 cases of enteric fever and 11 deaths, 69 cases of scarlet fever and 11 deaths, 20 cases of typhus fever, and six deaths from diphtheria.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

NOTE. — Hereafter the bulletins will be issued on Wednesday instead of Saturday.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 23, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	461	21.94	23.42	28.71
Philadelphia.	876,118	295	17.51	18.80	21.54
Brooklyn.	549,438	184	17.41	21.51	25.50
Chicago.	460,000			17.83	22.39
Boston.	375,476	128	17.73	20.10	24.34
Providence.	100,000	38	19.76	18.81	19.20
Lowell.	55,798	18	16.77	19.09	22.50
Worcester.	54,937	18	17.05	20.06	22.30
Cambridge.	53,547	15	14.56	18.69	20.83
Fall River.	53,207	19	18.57	21.35	24.96
Lynn.	35,528	11	16.11	20.42	19.67
Springfield.	33,981	8	12.25	16.02	19.77
Salem.	27,140	11	21.07	20.38	21.15

THE METRIC SYSTEM IN MEDICINE.

OLD STYLE.	METRIC. Gms.
♏i. or gr. i. equals	06
f ʒ i. or ʒ i. equals	4
f ℥ i. or ℥ i. equals	32

The decimal *line* instead of *points* makes errors impossible.

As .06 (Drug) is less than a grain, while 4. and 32. (Vehicle) are more than the drachm and ounce, there is no danger of giving too large doses of strong drugs.

C. C. used for Gms. causes an error of 5 per cent. [excess].

A teaspoon is 5 Gms.; a tablespoon, 20 Gms.

THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. XCIX. — THURSDAY, DECEMBER 12, 1878. — NO. 24.

DEDICATORY ADDRESS AT THE OPENING OF THE NEW BUILDING AND HALL OF THE BOSTON MEDICAL LIBRARY ASSOCIATION.[1]

BY OLIVER WENDELL HOLMES, M. D.,
President of the Association.

It is my appointed task, my honorable privilege, this evening, to speak of what has been done by others. No one can bring his tribute of words into the presence of great deeds, or try with them to embellish the memory of any inspiring achievement, without feeling and leaving with others a sense of their insufficiency. So felt Alexander when he compared even his adored Homer with the hero the poet had sung. So felt Webster when he contrasted the phrases of rhetoric with the eloquence of patriotism and of self-devotion. So felt Lincoln when on the field of Gettysburg he spoke those immortal words which Pericles could not have bettered, which Aristotle could not have criticised. So felt he who wrote the epitaph of the builder of the dome which looks down on the crosses and weathercocks that glitter over London.

We are not met upon a battle-field, except so far as every laborious achievement means a victory over opposition, indifference, selfishness, faintheartedness, and that great property of mind as well as matter, — inertia. We are not met in a cathedral, except so far as every building whose walls are lined with the products of useful and ennobling thought is a temple of the Almighty, whose inspiration has given us understanding. But we have gathered within walls which bear testimony to the self-sacrificing, persevering efforts of a few young men, to whom we owe the origin and development of all that excites our admiration in this completed enterprise; and I might consider my task as finished if I contented myself with borrowing the last word of the architect's epitaph and only saying, Look around you!

The reports of the librarian have told or will tell you, in some detail, what has been accomplished since the 21st of December, 1874, when six gentlemen met at the house of Dr. Henry Ingersoll Bowditch to discuss different projects for a medical library. In less than four years om that time, by the liberality of associations and of individuals, this collection of nearly ten thousand volumes, of five thousand pamphlets, and of one hundred and twenty-five journals, regularly received, — all worthily sheltered beneath this lofty roof, — has come into being under our eyes. It has sprung up, as it were, in the night, like a mushroom; it stands before us in full daylight as lusty as an oak, and promising to grow and flourish in the perennial freshness of an evergreen.

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[1] Read December 3, 1878.

To whom does our profession owe this already large collection of books, exceeded in numbers only by four or five of the most extensive libraries in the country, and lodged in a building so well adapted to its present needs? We will not point out individually all those younger members of the profession who have accomplished what their fathers and elder brethren had attempted and partially achieved. We need not write their names on these walls, after the fashion of those civic dignitaries who immortalize themselves on tablets of marble and gates of iron. But their contemporaries know them well, and their descendants will not forget them, — the men who first met together, the men who have given their time and their money, the faithful workers, worthy associates of the strenuous agitator who gave no sleep to his eyes, no slumber to his eyelids, until he had gained his ends; the untiring, imperturbable, tenacious, irrepressible, all-subduing agitator who neither rested nor let others rest until the success of the project was assured. If, against his injunctions, I name Dr. James Read Chadwick, it is only my revenge for his having kept me awake so often and so long while he was urging on the undertaking in which he has been preëminently active and triumphantly successful.

We must not forget the various medical libraries which preceded this: that of an earlier period, when Boston contained about seventy regular practitioners; the collection afterwards transferred to the Boston Athenæum; the two collections belonging to the University; the Treadwell Library at the Massachusetts General Hospital; the collections of the two societies, that for Medical Improvement and that for Medical Observation; and more especially the ten thousand volumes relating to medicine belonging to our noble public city library, — too many blossoms on the tree of knowledge, perhaps, for the best fruit to ripen. But the Massachusetts Medical Society now numbers nearly four hundred members in the city of Boston. The time had arrived for a new and larger movement. There was needed a place to which every respectable member of the medical profession could obtain easy access; where, under one roof, all might find the special information they were seeking; where the latest medical intelligence should be spread out daily as the shipping news is posted on the bulletins of the exchange; where men engaged in a common pursuit could meet, surrounded by the mute oracles of science and art; where the whole atmosphere should be as full of professional knowledge as the apothecary's shop is of the odor of his medicaments. This was what the old men longed for, — the prophets and kings of the profession, who

> "desired it long,
> But died without the sight."

This is what the young men and those who worked under their guidance undertook to give us. And now such a library, such a reading room, such an exchange, such an intellectual and social meeting-place, we behold a fact, plain before us. The medical profession of our city, and, let us add, of all those neighboring places which it can reach with its iron arms, is united as never before by the *commune vinculum*, the common bond of a large, enduring, ennobling, unselfish interest. It breathes a new air of awakened intelligence. It marches abreast of the other learned professions, which have long had their extensive and valuable centralized libraries ; abreast of them, but not promising to be content with that position. What glorifies a town like a cathedral? What dignifies a province like a university? What illuminates a country like its scholarship, and what is the nest that hatches scholars but a library?

The physician, some may say, is a practical man and has little use for all this book-learning. Every student has heard Sydenham's reply to Sir Richard Blackmore's question as to what books he should read, — meaning medical books. "Read Don Quixote," was his famous answer. But Sydenham himself made medical books and may be presumed to have thought *those* at least worth reading. Descartes was asked where was his library, and in reply held up the dissected body of an animal. But Descartes made books, great books, and a great many of them. A physician of common sense without erudition is better than a learned one without common sense, but the thorough master of his profession must have learning added to his natural gifts.

It is not necessary to maintain the direct practical utility of all kinds of learning. Our shelves contain many books which only a certain class of medical scholars will be likely to consult. There is a dead medical literature, and there is a live one. The dead is not all ancient, the live is not all modern. There is none, modern or ancient, which, if it has no living value for the student, will not teach him something by its autopsy. But it is with the live literature of his profession that the medical practitioner is first of all concerned.

Now there has come a great change in our time over the form in which living thought presents itself. The first printed books — the *incunabula* — were enclosed in boards of solid oak, with brazen clasps and corners ; the boards by and by were replaced by pasteboard covered with calf or sheepskin ; then cloth came in and took the place of leather; then the pasteboard was covered with paper instead of cloth; and at this day the quarterly, the monthly, the weekly periodical in its flimsy unsupported dress of paper, and the daily journal, naked as it came from the womb of the press, hold the larger part of the fresh reading we live upon. We must have the latest thought in its latest expression; the page must be newly turned like the morning bannock; the pamphlet must be newly opened like the ante-prandial oyster.

Thus a library, to meet the need of our time, must take, and must spread out in a convenient form, a great array of periodicals. Our active practitioners read these by preference over almost everything else. Our specialists, more particularly, depend on the month's product, on the yearly crop of new facts, new suggestions, new contrivances, as much as the farmer on the annual yield of his acres. One of the first wants, then, of the profession is supplied by our library in its great array of periodicals from many lands in many languages. Such a number of medical periodicals no private library would have room for, no private person would pay for, or flood his library with if they were sent him for nothing. These, I think, with the reports of medical societies and the papers contributed to them, will form the most attractive part of our accumulated medical treasures. They will be also one of our chief expenses, for these journals must be bound in volumes and they require a great amount of shelf-room; all this, in addition to the cost of subscription for those which are not furnished us gratuitously.

It is true that the value of old scientific periodicals is, other things being equal, in the inverse ratio of their age, for the obvious reason that what is most valuable in the earlier volumes of a series is drained off into the standard works with which the intelligent practitioner is supposed to be familiar. But no extended record of facts grows too old to be useful provided only that we have a ready and sure way of getting at the particular fact or facts we are in search of.

And this leads me to speak of what I conceive to be one of the principal tasks to be performed by the present and the coming generation of scholars, not only in the medical, but in every department of knowledge. I mean the formation of *indexes*, and more especially of indexes to periodical literature.

This idea has long been working in the minds of scholars, and all who have had occasion to follow out any special subject. I have a right to speak of it, for I long ago attempted to supply the want of indexes in some small measure, for my own need. I had a very complete set of the *American Journal of the Medical Sciences;* an entire set of the *North American Review*, and many volumes of the reprints of the three leading British quarterlies. Of what use were they to me without general indexes? I looked them all through carefully and made classified lists of all the articles I thought I should most care to read. But they soon outgrew my lists. The *North American Review* kept filling up shelf after shelf, rich in articles which I often wanted to consult, but what a labor to find them, until the index of Mr. Cushing, published a few months since, made the contents of these hundred and twenty volumes as easily accessible as the words in a dictionary! I had a copy of good Dr. Abraham Rees's Cyclopædia, a treasure-house to my boyhood which has not lost its value for me in later years. But where to look for what I wanted? I wished to know, for instance, what Dr. Burney had to say about singing. Who would have looked for it under the Italian word *cantare?* I was curious to learn something of the etchings of Rembrandt, and where should I find it but under the head "Low Countries, Engravers of the,"—an elaborate and most valuable article of a hundred double-columned close-printed quarto pages, to which no reference, even, is made under the title Rembrandt. There was nothing to be done, if I wanted to know where that which I specially cared for was to be found in my Rees's Cyclopædia, but to look over every page of its forty-one quarto volumes and make out a brief list of matters of interest which I could not find by their titles, and this I did, at no small expense of time and trouble.

Nothing, therefore, could be more pleasing to me than to see the attention which has been given of late years to the great work of indexing. It is a quarter of a century since Mr. Poole published his Index to Periodical Literature, which it is much to be hoped is soon to appear in a new edition, grown as it must be to formidable dimensions by the additions of so long a period. The *British and Foreign Medical Review*, edited by the late Sir John Forbes, contributed to by Huxley, Carpenter, Laycock, and others of the most distinguished scientific men of Great Britain, has an index to its twenty-four volumes, and by its aid I find this valuable series as manageable as a lexicon. The last edition of the Encyclopædia Britannica had a complete index in a separate volume, and the publishers of Appleton's American Cyclopædia have recently issued an index to their useful work, which must greatly add to its value. I have already referred to the index to the *North American Review*, which to an American, and especially to a New Englander, is the most interesting and most valuable addition of its kind to our literary apparatus since the publication of Mr. Allibone's Dictionary of Authors. I might almost dare to parody Mr. Webster's words in speaking of Hamilton, to describe what Mr. Cushing did for the solemn rows of back volumes of our honored old *Review* which had been long fossilizing on our shelves: "He touched the dead corpse of the" *North American*, "and it sprang to its feet." A library of the best thought of the best American scholars during the greater portion of the century was brought to light by the work of the index-maker as truly as were the Assyrian tablets by the labors of Layard.

A great portion of the best writing and reading—literary, scientific, professional, miscellaneous—comes to us now, at stated intervals, in paper covers. The writer appears, as it were, in his shirt-sleeves. As soon as he has delivered his message the book-binder puts a coat on his back, and he joins the forlorn brotherhood of "back volumes," than which, so long as they are unindexed, nothing can be more exasperating. Who wants a lock without a key, a ship without a rudder, a binnacle without a compass, a check without a signature, a greenback without a goldback behind it?

I have referred chiefly to the medical journals, but I would include with these the reports of medical associations, and those separate publications which, coming in the form of pamphlets, heap themselves into chaotic piles and bundles which are worse than useless, taking up a great deal of room, and frightening everything away but mice and mousing antiquarians, or possibly at long intervals some terebrating specialist.

Arranged, bound, indexed, all these at once become accessible and valuable. I will take the first instance which happens to suggest itself. How many who know all about osteoblasts and the experiments of Ollier, and all that has grown out of them, know where to go for a paper by the late Dr. A. L. Peirson, of Salem, published in the year 1840, under the modest title, Remarks on Fractures? And if any practitioner who has to deal with broken bones does *not* know that most excellent and practical essay, it is a great pity, for it answers very numerous questions which will be sure to suggest themselves to the surgeon and the patient as no one of the recent treatises, on my own shelves, at least, can do.

But if indexing is the special need of our time in medical literature, as in every department of knowledge, it must be remembered that it is not only an immense labor, but one that never ends. It requires therefore the coöperation of a large number of individuals to do the work, and a large amount of money to pay for making its results public through the press. When it is remembered that the catalogue of the library of the British Museum is contained in nearly three thousand large folios of manuscript, and not all its books are yet included, the task of indexing any considerable branch of science or literature looks as if it were well nigh impossible. But many hands make light work. An "Index Society" has been formed in England, already numbering about one hundred and seventy members. It aims at "supplying thorough indexes to valuable works and collections which have hitherto lacked them; at issuing indexes to the literature of special subjects; and at gathering materials for a general reference index." This society has published a little treatise setting forth the history and the art of indexing, which I trust is in the hands of some of our members, if not upon our shelves.

Something has been done in the same direction by individuals in our own country, as we have already seen. The need of it in the department of medicine is beginning to be clearly felt. Our library has already an admirable catalogue with cross references, the work of a number of its younger members coöperating in the task. A very intelligent medical student, Mr. William D. Chapin, whose excellent project is endorsed by well-known New York physicians and professors, proposes to publish a yearly index to original communications in the medical journals of the United States, classified by authors and subjects. But it is from the National Medical Library at Washington that we have the best promise and the largest expectations. That great and growing collection of fifty thousand volumes is under the eye and hand of a librarian who knows books and how to manage them. For libraries are the standing armies of civilization, and an army is but a mob without a general who can organize and marshal it so as to make it effective. The "Specimen Fasciculus of a Catalogue of the National Medical Library," prepared under the direction of Dr. Billings, the librarian, would have excited the admiration of Haller, the master scholar in medical science of the last century, or rather of the profession in all centuries, and if carried out as it is begun will be to the nineteenth all and more than all that the three Bibliothecæ — Anatomica, Chirurgica, and Medico-Practica — were to the eighteenth century. I cannot forget the story that Agassiz was so fond of telling of the king of Prussia and Fichte. It was after the humiliation and spoliation of the kingdom by Napoleon that the monarch asked the philosopher what could be done to regain the lost position of the nation. "Found a great university, Sire," was the answer, and so it was that in the year 1810 the world-renowned University of Berlin came into being. I believe that *we* in this country can do better than found a national university, whose professors shall be nominated in caucuses, go in and out, perhaps, like postmasters, with every change of administration, and deal with science in the face of their constituency as the courtier did with time when his sovereign asked him what o'clock it was: "Whatever hour your majesty pleases." But when we have a noble library like that at Washington, and a librarian of exceptional qualifications like the gentleman who now holds that office, I believe that a liberal appropriation by Congress to carry out a conscientious work for the advancement of sound knowledge and the bettering of human conditions, like this which Dr. Billings has so well begun, would redound greatly to the honor of the nation. It ought to be willing to be at some charge to make its treasures useful to its citizens, and, for its own sake, especially to that class which has charge of health public and private. This country abounds in what are called "self-made men," and is justly proud of many whom it thus designates. In one sense no man is self-made who breathes the air of a civilized community. In another sense every man who is anything other than a phonograph on legs is self-made. But if we award his just praise to the man who has attained any kind of excellence without having had the same advantages as others whom, nevertheless, he has equalled or surpassed, let us not be betrayed into undervaluing the mechanic's careful training to his business, — the thorough and laborious education of the scholar and the professional man.

Our American atmosphere is vocal with the flippant loquacity of half knowledge. We must accept whatever good can be got out of it, and keep it under as we do sorrel and mullein and witchgrass, by enriching the soil, and sowing good seed in plenty; by good teaching and good books, rather than by wasting our time in talking against it. Half knowledge dreads nothing but whole knowledge.

I have spoken of the importance and the predominance of periodical literature, and have attempted to do justice to its value. But the almost exclusive reading of it is not without its dangers. The journals contain much that is crude and unsound; the presumption, it might be maintained, is against their novelties, unless they come from observers of established credit. Yet I have known a practitioner — perhaps more than one — who was as much under the dominant influence of the last article he had read in his favorite medical journal as a milliner under the sway of the last fashion-plate. The difference between green and seasoned knowledge is very great, and such practitioners never hold long enough to any of their knowledge to have it get seasoned.

It is needless to say, then, that all the substantial and permanent literature of the profession should be represented upon our shelves. Much of it is there already, and as one private library after another falls into this by the natural law of gravitation, it will gradually acquire all that is most valuable almost without effort. A scholar should not be in a hurry to part with his books. They are probably more valuable to him than they can be to any other individual. What Swedenborg called "correspondence" has established itself between his intelligence and the volumes which wall him within their sacred enclosure. Napoleon said that his mind was as if furnished with drawers, — he drew out each as he wanted its contents, and closed it at will when done with them. The scholar's mind, to use a similar comparison, is furnished with shelves, like his library. Each book knows its place in the brain as well as against the wall or in the alcove. His consciousness is doubled by the books which encircle him, as the trees that surround a lake repeat themselves in its unruffled waters. Men talk of the nerve that runs to the pocket, but one who loves his books, and has lived long with them, has a nervous filament which runs from his sensorium to every one of them. Or, if I may still let my fancy draw its pictures, a scholar's library is to him what a temple is to the worshipper who frequents it. There is the altar sacred to his holiest experiences.

There is the font where his new-born thought was baptized and first had a name in his consciousness. There is the monumental tablet of a dead belief, sacred still in the memory of what it was while yet alive. No visitor can read all this on the lettered backs of the books that have gathered around the scholar, but for him, from the Aldus on the lowest shelf to the Elzevir on the highest, every volume has a language which none but he can interpret. Be patient with the book-collector who loves his companions too well to let them go. Books are not buried with their owners, and the veriest book-miser that ever lived was probably doing far more for his successors than his more liberal neighbor who despised his learned or unlearned avarice. Let the fruit fall with the leaves still clinging round it. Who would have stripped Southey's walls of the books that filled them, when, his mind no longer capable of taking in their meaning, he would still pat and fondle them with the vague loving sense of what they had once been to him — to him, the great scholar, now like a little child among his playthings?

We need in this country not only the scholar, but the *virtuoso*, who hoards the treasures which he loves, it may be chiefly for their rarity and because others who know more than he does of their value set a high price upon them. As the wine of old vintages is gently decanted out of its cobwebbed bottles with their rotten corks into clean new receptacles, so the wealth of the New World is quietly emptying many of the libraries and galleries of the Old World into its newly formed collections and newly raised edifices. And this process must go on in an accelerating ratio. No Englishman will be offended if I say that before the New Zealander takes his stand on a broken arch of London bridge to sketch the ruins of Saint Paul's in the midst of a vast solitude, the treasures of the British Museum will have found a new shelter in the halls of New York or Boston. No Catholic will think hardly of my saying that before the Coliseum falls, and with it the imperial city, whose doom prophecy has linked with that of the almost eternal amphitheatre, the marbles, the bronzes, the paintings, the manuscripts of the Vatican will have left the shores of the Tiber for those of the Potomac, the Hudson, the Mississippi, or the Sacramento. And what a delight in the pursuit of the rarities which the eager book-hunter follows with the scent of a beagle! Shall I ever forget that rainy day in Lyons, that dingy bookshop, where I found the Aëtius, long missing from my Artis Medicæ Principes, and where I bought for a small pecuniary consideration, though it was marked *rare*, and was really *très rare*, the Aphorisms of Hippocrates, edited by and with a preface from the hand of Francis Rabelais? And the vellum-bound Tulpius, which I came upon in Venice, afterwards my only reading when imprisoned in quarantine at Marseilles, so that the two hundred and twenty-eight cases he has recorded are, many of them, to this day still fresh in my memory.

And the Schenckius, — the folio filled with *casus rariores*, which had strayed in among the rubbish of the bookstall on the boulevard, — and the noble old Vesalius with its grand frontispiece not unworthy of Titian, and the fine old Ambroise Paré, long waited for even in Paris and long ago, and the colossal Spigelius with his eviscerated beauties, and Dutch Bidloo with its miracles of fine engraving and bad dissection, and Italian Mascagni, the despair of all would-be imitators, and pre-Adamite John de Ketam, and antediluvian Berengarius Carpensis — but why multiply names, every one of which brings back the accession of a book which was an event almost like the birth of an infant?

A library like ours must exercise the largest hospitality. A great many books may be found in every large collection which remind us of those apostolic looking old men who figure on the platform at our political and other assemblages. Some of them have spoken words of wisdom in their day, but they have ceased to be oracles ; some of them never had any particularly important message for humanity, but they add dignity to the meeting by their presence ; they look wise, whether they are so or not, and no one grudges them their places of honor. Venerable figure-heads, what would our platforms be without you?

Just so with our libraries. Without their rows of folios in creamy vellum or showing their black backs with antique lettering of tarnished gold our shelves would look as insufficient and unbalanced as a column without its base, as a statue without its pedestal. And do not think they are kept only to be spanked and dusted during that dreadful period when their owner is but too thankful to become an exile and a wanderer from the scene of single combats between dead authors and living housemaids. Men were not all cowards before Agamemnon or all fools before the days of Virchow and Billroth. And apart from any practical use to be derived from the older medical authors, is there not a true pleasure in reading the accounts of great discoverers in their own words? I do not pretend to hoist up the Bibliotheca Anatomica of Mangetus and spread it on my table every day. I do not get out my great Albinus before every lecture on the muscles, nor disturb the majestic repose of Vesalius every time I speak of the bones he has so admirably described and figured. But it does please me to read the first descriptions of parts to which the names of their discoverers or those who have first described them have become so joined that not even modern science can part them ; to listen to the talk of my old volume as Willis describes his circle and Fallopius his aqueduct and Varolius his bridge and Eustachius his tube and Monro his foramen — all so well known to us in the human body ; it does please me to know the very words in which Winslow described the opening which bears his name, and Glisson his capsule and De Graaf his vesicle ; I am not content until I know in what language Harvey announced his discovery of the circulation, and how Spigelius made the liver his perpetual memorial, and Malpighi found a monument more enduring than brass in the corpuscles of the spleen and the kidney.

But after all, the readers who care most for the early records of medical science and art are the specialists who are dividing up the practice of medicine and surgery as they were parcelled out, according to Herodotus, by the Egyptians. For them nothing is too old, nothing is too new, for to their books of all others is applicable the saying of D'Alembert that the author kills himself in lengthening out what the reader kills himself in trying to shorten.

There are practical books among these ancient volumes which can never grow old. Would you know how to recognize "male hysteria" and to treat it, take down your Sydenham; would you read the experience of a physician who was himself the subject of asthma and who, notwithstanding that, in the words of Dr. Johnson, "panted on till ninety," you will find it in the venerable treatise of Sir John Floyer; would you listen to the story of the King's Evil cured by the royal touch, as told by a famous chirurgeon who fully believed in it, go to Wiseman; would you get at first hand the description of the spinal disease which long bore his name, do not be startled if I tell you to go to Pott — to Percival Pott, the great surgeon of the last century.

There comes a time for every book in a library when it is wanted by somebody. It is but a few weeks since one of the most celebrated physicians in the country wrote to me from a great centre of medical education to know if I had the works of Sanctorius, which he had tried in vain to find. I could have lent him the "Medicina Statica," with its frontispiece showing Sanctorius with his dinner on the table before him, in his balanced chair which sunk with him below the level of his banquet-board when he had swallowed a certain number of ounces, — an early foreshadowing of Pettenkofer's chamber and quantitative physiology, — but the "Opera Omnia" of Sanctorius I had never met with, and I fear he had to do without it.

I would extend the hospitality of these shelves to a class of works which we are in the habit of considering as being outside of the pale of medical science, properly so called, and sometimes of coupling with a disrespectful name. Such has always been my own practice. I have welcomed Culpeper and Salmon to my bookcase as willingly as Dioscorides or Quincy, or Paris or Wood and Bache. I have found a place for St. John Long, and read the story of his trial for manslaughter with as much interest as the laurel-water case in which John Hunter figured as a witness. I would give Samuel Hahnemann a place by the side of Samuel Thompson. Am I not afraid that some student of imaginative turn and not provided with the needful cerebral strainers without which all the refuse of gimcrack intelligences gets into the mental drains and chokes them up, — am I not afraid that some such student will get hold of the "Organon" or the "Maladies Chroniques" and be won over by their delusions, and so be lost to those that love him as a man of common sense and a brother in their high calling? Not in the least. If he showed any symptoms of infection I would for once have recourse to the principle of *similia similibus.* To cure him of Hahnemann I would prescribe my favorite homœopathic antidote, Okie's Bonninghausen. If that failed, I would order Grauvogl as a heroic remedy, and if he survived that uncured, I would give him my blessing, if I thought him honest, and bid him depart in peace. For me he is no longer an individual. He belongs to a class of minds which we are bound to be patient with if their Maker sees fit to indulge them with existence. We must accept the conjuring ultra-ritualist, the dreamy second adventist, the erratic spiritualist, the fantastic homœopathist, as not unworthy of philosophic study; not more unworthy of it than the squarers of the circle and the inventors of perpetual motion, and the other whimsical visionaries to whom De Morgan has devoted his most instructive and entertaining "Budget of Paradoxes." I hope, therefore, that our library will admit the works of the so-called Eclectics, of the Thomsonians, if any are in existence, of the Clairvoyants, if they have a literature, and especially of the Homœopathists. This country seems to be the place for such a collection, which will by and by be curious and of more value than at present, for Homœopathy seems to be following the pathological law of erysipelas, fading out where it originated as it spreads to new regions. At least I judge so by the following translated extract from a criticism of an American work in the *Homœopatische Rundschau* of Leipzig for October, 1878, which I find in the *Homœopathic Bulletin* for the month of November just passed: —

"While we feel proud of the spread and rise of Homœopathy across the ocean, and while the Homœopathic works reaching us from there, and published in a style such as is unknown in Germany, bear eloquent testimony to the eminent activity of our transatlantic colleagues, we are overcome by sorrowful regrets at the position Homœopathy occupies in Germany. Such a work [as the American one referred to] with us would be impossible; it would lack the necessary support."

By all means let our library secure a good representation of the literature of Homœopathy before it leaves us its "sorrowful regrets" and migrates with its sugar of milk pellets, which have taken the place of the old *pilulæ micæ panis*, to Alaska, to "Nova Zembla, or the Lord knows where."

What shall I say in this presence of the duties of a Librarian? Where have they ever been better performed than in our own public city library, where the late Mr. Jewett and the living Mr. Winsor have shown us what a librarian ought to be — the organizing head, the vigilant guardian, the seeker's index, the scholar's counsellor? His work is not merely that of administration, manifold and laborious as its duties are. He must have a quick intelligence and a retentive memory. He is a public carrier of knowledge in its germs. His office is like that which naturalists attribute to the bumble-bee, — he lays up little honey for himself, but he conveys the fertilizing pollen from flower to flower.

Our undertaking, just completed — and just begun — has come at the right time, not a day too soon. Our practitioners need a library like this, for with all their skill and devotion, there is too little genuine erudition, such as a liberal profession ought to be able to claim for many of its members. In reading the recent obituary notices of the late Dr. Geddings of South Carolina, I recalled what our lamented friend Dr. Coale used to tell me of his learning and accomplishments, and I could not help reflecting how few such medical scholars we had to show in Boston or New England. We must clear up this unilluminated atmosphere, and here, — here is the true electric light which will irradiate its darkness.

The public will catch the rays reflected from the same source of light, and it needs instruction on the great subjects of health and disease, — needs it sadly. It is preyed upon by every kind of imposition almost without hindrance. Its ignorance and prejudices react upon the profession to the great injury of both. The jealous feeling, for instance, with regard to such provisions for the study of anatomy as are sanctioned by the laws in this State and carried out with strict regard to those laws, threatens the welfare, if not the existence of institutions for medical instruction wherever it is not held in check by enlightened intelligence. And on the other hand the profession has just been startled by a verdict against a physician, ruinous in its amount, — enough to drive many a hard-working young practitioner out of house and home, — a verdict which leads to the fear that suits for malpractice may take the place of the panel game and child-stealing as a means of extorting money. If the profession in this State, which claims a high standard of civilization, is to be crushed and ground beneath the upper millstone of the dearth of educational advantages, and the lower millstone of ruinous penalties for what the ignorant ignorantly shall decide to be ignorance, all I can say is

God save the Common*h*ealth of Massachusetts!

Once more, we cannot fail to see that just as astrology has given place to astronomy, so theology, the science of Him whom by searching no man can find out, is fast being replaced by what we may not improperly call theonomy, or the science of the laws according to which the Creator acts. And since these laws find their fullest manifestations for us, at least, in rational human natures, the study of anthropology is large replacing that of scholastic divinity. We must contemplate our Maker indirectly in human attributes as we talk of Him in human parts of speech. And this gives a sacredness to the study of man in his physical mental, moral, social, and religious nature which elevates the faithful students of anthropology to the dignity of a priesthood, and sheds a holy light on the recorded results of their labors, brought together as they are in such a collection as this which is now spread out before us.

Thus, then, our library is a temple as truly as the dome-crowned cathedral hallowed by the breath of prayer and praise, where the dead repose and the living worship. May it, with all its treasures, be consecrated like that to the glory of God, through the contributions it shall make to the advancement of sound knowledge, to the relief of human suffering, to the promotion of harmonious relations between the members of the two noble professions which deal with the diseases of the soul and with those of the body, and to the common cause in which all good men are working, the furtherance of the well-being of their fellow creatures!

NOTE. — As an illustration of the statement in the last paragraph but one, I take the following notice from the *Boston Daily Advertiser* of December 4th, the day after the delivery of the address: —

"Prince Lucien Bonaparte is now living in London, and is devoting himself to the work of collecting the creeds of all religions and sects, with a view to their classification, — his object being simply scientific or anthropological."

Since delivering the address, also, I find a leading article in the *Cincinnati Lancet and Clinic* of November 30th, headed "The Decadence of Homœopathy," abundantly illustrated by extracts from the *Homœopathic Times*, the leading American organ of that sect.

In the New York *Medical Record* of the same date, which I had not seen before the delivery of my address, is an account of the action of the Homœopathic Medical Society of Northern New York, in which Hahnemann's theory of "dynamization" is characterized in a formal resolve as "unworthy the confidence of the Homœopathic profession."

It will be a disappointment to the German Homœopathists to read in the *Homœopathic Times* such a statement as the following: —

"Whatever the influences have been which have checked the outward development of Homœopathy, it is plainly evident that the Homœopathic school, as regards the number of its openly avowed representatives, has attained its majority, and has begun to decline both in this country and in England."

All which is an additional reason for making a collection of the incredibly curious literature of Homœopathy before that pseudological inanity has faded out like so many other delusions.

REFLEX SYMPTOMS IN HIP DISEASE.[1]

BY EDWARD H. BRADFORD, M. D.

II. Muscular contraction. Motion at a healthy hip-joint is limited by the tension of the muscles about the joint.[2]

In hip disease at its early stage, stiffness of the joint is due to muscular contraction. When the patient is anæsthetized the thigh moves freely. This contracted state of muscles can be used in diagnosis.

In certain cases, chiefly frightened and nervous children, when examination is difficult, it is a valuable symptom. In one patient — a nursing child one year old — this was the only positive symptom of hip disease I was able to find on the first examination.

In all of the cases of hip disease which I have examined with care, with one exception (Case I. when first seen[3]), certain of the muscles were found either *contracted* or in a state of *irritability*.

The muscles where contraction is most readily felt are the adductors, which on palpation will be found frequently hard and firm. At its insertion at the ramus of the pubes, the tendinous origin will be felt like a tightly drawn cord.[4]

This symptom is not always to be found in patients under thorough treatment, or in patients where the soft tissues have been infiltrated by suppuration.

The anterior border of the tensor vaginæ femoris will be frequently found firm and thickened. This I have seen at a comparatively early stage of the disease.

At a later stage of the affection, if the soft parts are not infiltrated by suppuration, there is rarely difficulty in detecting muscular contraction.

III. Stage of muscular irritability. Before the muscles become contracted, or after the stage of muscular contraction has passed away, provided inflammation remain at the joint, the muscles of that region are in a state of irritability, or muscular erethism (*éréthisme de la contrac-*

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[1] Concluded from page 699. Read before the Massachusetts Medical Society, June 11, 1878.

[2] Hencke. Quoted in Hueter (Klinik d. Gelenkh., and also Weber brothers' experiments). This can be readily seen on cutting the muscles about the hip-joint in the cadaver.

[3] This was one of the first cases seen, and it is possible that muscular "irritability" might have been present and not recognized, as the subsequent examination of cases showed that some little experience made the recognition of the early symptoms more easy.

[4] The part played by the muscular contractions in the "vicious" positions of the limb, described by Bonnet, is undoubtedly a prominent one. The influence of effusion in giving a peculiar position to the limb is probably not as great as has been assumed. That it is of more importance than has been stated by some writers is easily verified by experiment. Inserting a large-sized needle of an aspirator into the hip-joint of a still-born child, I injected slowly an ounce or two of fluid; the thigh was flexed and abducted slightly, and rotated outwards. Bonnet and Weber's careful experiments can be confirmed in this way without trouble.

tilité musculaire: Bouchut). M. Verneuil terms this condition "*vigilance musculaire;*" or, as Dr. Sayre well expresses it, the muscles are "on guard" to protect the joint. The joint cannot be considered healthy as long as this symptom is present.

This state of muscular irritability is manifested by a liability to a characteristic spasmodic contraction of the muscles, or to an impairment of the elasticity of the muscles (if the term be allowed), felt on passive motion of the limb; there is "a reluctance of the muscles to relax" (Taylor), or passive motion is interrupted by muscular twitches.

In testing for this symptom no force should be used in moving the thigh. A certain amount of practice is needed in the least marked cases to distinguish this state of muscular irritation, which is a pathological one, from the physiological muscular resistance on moving the thigh of a fretful child. Patience and a comparison of the motion of the two thighs will help in this examination.

The nocturnal pains are known to be due to this state of muscular erethism. To use Dr. Sayre's metaphor, they are the alarm of the sentry. The muscles relaxed by sleep are suddenly spasmodically contracted and the diseased surfaces crowded together, causing pain.

This muscular irritability can be observed in the acute attacks of pain which occasionally are seen to interrupt the chronic course of hip disease.

In Cases II. and IV. the muscles at one time were so easily excited to contraction that the patella was seen twitched upwards one half to one inch by a spasm of the quadriceps extensor cruris; although the limb was not jarred or touched, and had been kept for some time in perfect rest with efficient extension.

This condition of muscular irritability was seen in the following cases, in a manner undoubtedly observed by others, but which I have not found mentioned: —

CASE VIII. D., boy, five years old, hip disease, six months' duration, with the usual symptoms, slight motion at the hip-joint. Passive motion caused a muscular tremor of the muscles on the outer and anterior side of the thigh and of the buttock. This resembled the muscular quivering seen in progressive muscular atrophy. This was also seen on striking lightly the glutæus maximus.

CASE IX. P., nine years old, hip disease, one year's standing, no motion at the hip-joint. Any attempt to lift the knee caused muscular tremor of the muscles on the anterior and outer side of the thigh.

CASE X. S., seven years old, hip disease, four months' standing, motion at the hip-joint in an area of 10°. Motion caused muscular tremor of the muscles on the outer and upper surface of the thigh. No pain on passive motion.

CASE XI. Adult, cachectic looking man, thirty years old. Limping in the right limb for a few months, slight rheumatic pains, limitation of motion in extension. Passive motion caused marked muscular tremor of the glutæus, vastus externus, rectus femoris. No pain on moving the limb.

Other cases might be cited, but the above will be sufficient.

The muscular tremor observed in these cases was peculiar. The whole belly of the muscle did not contract, but individual muscular bundles would twitch successively, giving an appearance of tremble to the whole muscle as if it shuddered at the thought of motion.[1]

In the cases where this was most readily seen the patients were muscular, and there was but little adipose tissue.

If much force was used in the passive motion, the tremor was masked by a marked contraction involving the whole muscle.

IV. Diminution in electro-muscular contractility in muscles about the joint has been observed for some time in affections of the joint.

M. Lefort[2] pointed out the fact that the loss of contractility on electrical irritation, instead of following muscular atrophy in joint disease, precedes it. In cases of synovitis of the knee-joint this symptom is to be seen at the very beginning of the affection.

Valtat quotes a case of hip disease in which he found a diminution of electrical contractility to the faradic current in the tensor vaginæ femoris, and in the quadriceps extensor cruris.

Dr. N. M. Shaffer[3] mentions four cases of hip disease examined by Dr. Seguin, in which there was a decided decrease of faradic contractility in the muscles of the thigh, but those of the leg showed a normal reaction.

The following cases of hip disease were examined for me through the kindness of Drs. Webber and Putnam; in all a marked diminution of reaction to the faradic current was found: —

Case XII. McD., aged nine years, suffered from hip disease for four months, with the usual symptoms; there was marked atrophy of the limb and slight motion at the joint. Faradic contractility of muscles on the anterior surface of the thigh was diminished on the left (the affected) side more than on the right by one half, both on direct and indirect irritation. The subsequent course of the case confirmed the diagnosis. The patient subsequently underwent excision of the hip-joint and died.

Case XIII. Boy eleven years old, hip disease, beginning when the boy was two years old. All sinuses and abscesses had ceased discharging. A natural cure of the disease, with anchylosis. Child able to run about with perfect freedom. Affected limb shortened and smaller than the other. Diminution of muscular contractility to faradic irritation was found on the anterior and outer side of the thigh. The contractility of the adductors was also diminished, but to a less degree.

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[1] Dr. J. J. Putnam has observed, in cases of rheumatism of the joints (both acute and chronic), muscular tremor of the muscles about the joint, on motion of the limb, both active and passive.

[2] Valtat, De l'Atrophie musculaire dans les Maladies des Articulations, Paris, 1877, page 9.

[3] Reflex Muscular Contractions, etc., in Joint Disease, New York, 1877, page 10.

Case XIV. Boy, aged ten, hip disease, one year's standing; diminution of the faradic contractility in muscles on the anterior surface of the thigh of the affected side.

Case XV. E., five years old, hip disease of several months' duration, slight atrophy. Marked diminution of the faradic contractility (on direct irritation) was found in the rectus femoris of the affected side. This was not the case with the sartorius muscle. The tensor vaginæ femoris could not be satisfactorily examined.

Case XVI. E. P., seven years old, hip disease of two years' standing, slight atrophy. Marked diminution to faradic irritation of the muscle, supplied by the crural nerve, on indirect irritation of these muscles; this less marked on direct irritation.

Case XVII. H., eight years old, hip disease of two years' duration, slight atrophy, limb kept in good position by treatment. Diminution in reaction to faradization found on indirect excitation of the muscles supplied by the crural nerve.

In all of the cases which I examined atrophy was present. I am unable to say which symptom is the earlier.

This symptom is not readily recognized in young children, but promises to be of value in forming a diagnosis between hip disease and hysterical coxalgia.

V. Atrophy. Valtat, in a recent monograph, has carefully investigated this symptom in affections of all the joints. He finds it a very early and constant one.

My observations in regard to this symptom have not been sufficiently extended to warrant publication.

The symptoms above mentioned (muscular contraction, muscular irritation, diminution in electro-muscular contractility, atrophy) have been explained in various ways. It seems most rational to consider them all reflex symptoms.

Mr. Barwell speaks of a "joint sense," and claims that irritation of the joint is particularly liable to cause muscular spasm. He cites, as an example, the violent muscular spasm excited when a loose cartilage becomes lodged between the femur and tibia.

The existence of a "joint sense" suggests the "archæus" of the early medical writers, and seems hardly needed.

Muscular tonicity has been shown to be a reflex symptom,[1] which disappears on section of the sensitive root of the nerve supplying the part.

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[1] Brondgeest (Ondezorkingen over den Tonus der Willekeurigen Spieren, Utrecht, 1860). Cyon Pfluger's Archiv, vol. viii., 1878, quoted in London Medical Record, January, 1874. Erb and Westthal's recent observations seem to show the reflex nature of certain muscular contractions.

If irritation be present, the tonicity of the muscle is increased, and the muscle contracts.

The state called muscular irritation may be regarded as of a similar nature, but the result of a less powerful irritation ; it is a lower stage of the same pathological change.

Atrophy and diminution in electrical reaction are early symptoms, seen when the joint is slightly involved, and when disease of the limb has not operated long enough to cause the change.

M. Ollivier well expresses the opinion at present generally received in regard to the nature of this group of symptoms : —

" Le système musculaire éprouve le contre-coup de presque toutes les affections qui peuvent atteindre les jointures."[1]

Mistakes in the diagnosis of hip disease are unfortunately not uncommon. The results of such mistakes are deplorable.

It has been said that every case of hip disease passes through a stage when it is called "rheumatism." It is precisely at this stage that a diagnosis should be made.

Cases are not unfrequently seen where a diagnosis of "incipient" hip disease is made, although the disease has progressed so far that suppuration of the joint is imminent ; it being apparently the opinion of some that hip disease is not present until grating can be felt on manipulating the joint under an anæsthetic, — or, in other words, until the disease has progressed to a dangerous extent.

The liability to error will be less if the following facts be kept in mind : —

(1.) Serious disease at the hip-joint may exist when no pain is complained of, and when no tenderness can be discovered.

(2.) Hip disease may be present, although the motion at the hip-joint is quite free.

(3.) If the motion at one hip-joint is more limited than at the other, hip disease must always be suspected, and the symptom regarded as highly characteristic of hip disease.

(4.) At the earliest stage the limitation of motion most readily recognized is in the direction of extension.

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[1] Thèse de Paris, 1869.

RECENT PROGRESS IN DERMATOLOGY.[1]

BY JAMES C. WHITE, M. D.

Purpura Hæmorrhagica. — Dr. Davis, of Chicago, reports [2] five cases of this affection, which were treated successfully by combined doses of tincture of digitalis and fluid extract of ergot given every four hours. He is disposed to regard the disease as due to the defective development of muscular fibres in the middle coat of the smaller arteries, or the defective influence of the vaso-motor nerves on such fibres.

Removal of Superfluous Hairs. — Dr. Bulkley, in a paper [3] prepared for the last meeting of the American Dermatological Association, describes a method different from that hitherto employed to destroy the follicle and thus prevent the return of the hair; according to his account it works as successfully as the more severe methods by electrolysis, cautery, etc. He takes a small glover's needle with sharp edges and inserts it in a slender handle, and holds it in the right hand. He then seizes the hair with epilating forceps in the left hand, and extracts with gentle traction while the point of the needle is engaged in the orifice. It is then thrust into the follicle to a depth greater than that occupied by the hair, and rotated several times. When removed it will be seen to have adhering to it the epithelial elements of the follicular walls. The operation is not painful, and no appreciable scar follows the inflammation produced by it. Although seemingly simple, much tact and patience are found necessary to insure successful results. Repeated attempts are often made before the needle enters the follicle, and Dr. Bulkley does not claim that more than fifty per cent. of the hairs removed at an operation will be permanently extirpated. Many and repeated sittings are therefore necessary, and he finds it difficult to remove more than from twenty-five to forty hairs at once. With regard to the permanency of the results, one of his cases was operated upon nearly two years ago, and the hairs remain absent.

If such successful results can be obtained by this operation of destroying the follicle mechanically and producing adhesive inflammation in its walls, it should take the place of the more complex and painful methods above referred to. See a report upon this subject in the notice of the recent meeting of the Dermatological Association in the JOURNAL of September 19th.

Anatomy of Scleroderma. — Dr. Chiari, assistant in the Path.-Anatomical Institute in Vienna, publishes [4] the results of his microscopical examination of the skin in a case of universal scleroderma. He found only a thickening of the cutaneous and subcutaneous fibrous tissue, with a great deposit of pigment in the epidermis and papillary layer, both granular and diffused. There was no change in the glandular structures of the skin. The hypertrophy of the fibrous tissue he is inclined to regard as the result of a chronic inflammation of the skin rather than of an affection of the lymphatics, as held by Kaposi.

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[1] Concluded from page 729.

[2] Chicago Med. Journal and Examiner, June, 1878.

[3] Archives of Dermatology, October, 1878.

[4] Vierteljahresschrift für Derm. und Syph., v. Jahrg., 2 Heft.

Treatment of Nœvus by Sodium Ethylate. — At a recent meeting of the Medical Society of London, Dr. J. Brunton [1] read a paper upon this subject. The substance is obtained by adding metallic sodium, piece by piece, to absolute alcohol in a wide-mouthed bottle. It is added cautiously until effervescence ceases, when a crystalline substance is deposited. When brought into contact with water it is decomposed into sodium hydrate and common alcohol. Laid upon dry skin but little reaction follows, but in the presence of moisture caustic soda is produced as water is eliminated, and a gradual destruction of tissue follows, which may be hardly perceptible, or so intensified as to act almost like a cutting instrument. The pain may be checked quickly by dropping upon the part a little chloroform, which decomposes the alcohol. Dr. Richardson stated that the ethylate acted by taking up water from the tissues and re-forming alcohol, which coagulates the albuminous compounds, while the liberated soda acts as a caustic. The scar tissue which results was described as slight.

Lupus Syphiliticus and Lupus Vulgaris.[2] — In a lecture upon the difficulties of diagnosis in venereal diseases, Professor Zeissl, of Vienna, tabulates the points of difference between the so-called lupus syphiliticus, or syphilitic gummata, and ordinary lupus as follows: —

LUPUS SYPHILITICUS.	LUPUS VULGARIS.
(1.) Seat in the tissue of the cutis or the subcutaneous cellular tissue.	(1.) Lively reaction in the neighborhood of the tubercles, or ulceration; frequently erysipelatous swelling of the surrounding tissues.
(2.) Gummata are painful to the touch.	(2.) Tubercles and ulcers are nearly painless.
(3.) Generally accompanied by ozæna syphilitica.	(3.) The bones of the nose are generally unaffected.
(4.) Generally leave strongly marked and deep scars.	(4.) Lupus generally leaves contracted scars.
(5.) In lupus syphiliticus hereditarius the velum is generally ulcerated.	(5.) There is generally no ulceration of the velum molle.

The so-called Pigmentary Syphilide. — Concerning this alleged independent form of melanoderma Dr. Fox, of New York, presents [3] the following views: The pigmentary syphilide as described by Hardy and others is not a direct manifestation of syphilitic disease. It is a non-specific vitiligo, which though syphilitic in its origin cannot be properly classed among syphilitic lesions. It is most frequently observed upon the neck, but may be well marked upon various other portions of the body. It is usually more apparent upon females, but is by no means peculiar to this sex ; nor is it always associated with a fair complexion. The whitish macules, which constitute the most important feature of the affection, are not merely white by contrast with a hyperpigmented background, but in consequence of a loss of pigment. These macules occur upon the site of preëxisting syphilitic lesions, remains of which may sometimes be observed as dark central points. The hyperpigmentation surrounding the macules is of secondary importance, although in the majority of cases it constitutes the most striking feature of the affection.

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[1] The Lancet, November 2, 1878.

[2] Reprint from Allg. Wiener mediz. Zeitung, 1878, Nos. 19, 20, 21.

[3] American Journal of Medical Sciences, April, 1878.

Dr. Atkinson, in a paper[1] presented at the last meeting of the American Dermatological Association, reports three cases of the affection, and expresses the belief that it appears independently of any preceding hyperæmia. He sees no reason why the syphilitic dyscrasia, as distinct from any cachectic condition, may not equally evoke similar pigmentary changes, and believes that it does.[2]

Leprosy. — Dr. Rohé, of Baltimore, reports[3] the history of two cases of this disease affecting native-born Americans. One of them was born in New York ; resided in Cuba from 1855 to 1864, but since the latter date in Baltimore. The disease showed itself only two years ago, at the age of fifty-two. He has four children, whose ages are between fourteen and twenty, but none of them have shown manifestations of the affection. The other case, a woman, aged forty-six, was born in Baltimore, and, although a resident in several cities of our Southern States prior to 1865, has never been out of the country. The disease showed itself during her last pregnancy, about nine years ago, but has not developed as yet in any of her children, the oldest of whom is twenty-nine years of age. These instances are an important contribution to the list of cases of leprosy in native Americans previously observed, and with them demonstrate beyond question the sporadic occurrence of the disease in all parts of the United States. A special report upon this subject was made by the committee on statistics of the American Dermatological Association at the recent meeting at Saratoga.

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[1] Chicago Medical Journal and Examiner, October, 1878.

[2] In this connection the reporter would allude to a recent notice in The Doctor of the lecture on Melanoderma, published in the JOURNAL of May 16th. Dr. Drysdale remarks that the writer did not recognize this syphilitic ephelis, nor speak of tinea versicolor as a form of chloasma, suggesting that this might be owing to the difficult nomenclature of Hebra. Tinea versicolor is a parasitic disease, chloasma is a hypertrophy of pigment; the former, therefore, is in no way a variety of the latter. It would be as appropriate to call a dirty face a form of chloasma. We see no difficulty in Hebra's nomenclature in this regard, and must decline to accept the statement that "chloasma is generally held to be synonymous with pityriasis versicolor."

[3] Maryland Med. Journal, July, 1878.

Leprosy in Norway. — In an interesting account [1] of his visit to Norway, in 1877, Dr. Rabe makes an extended report upon the present condition of the disease. In 1856 the number of lepers was 2847 ; in 1861, 2096, of which 709 lived in the asylums ; in 1870, 2055 ; and in 1876 the number was reduced to 1800, of which 810 were in hospital. The number of lazarettos is six, and all possible means are employed by the government to alleviate the sufferings of the lepers. District physicians are appointed, who make a report twice a year upon their condition all over the country. He found but one of the latter who believed in the contagiousness of the disease, and he maintained that the period of incubation was very long.

Development of Epithelial Cancer. — Busch describes [2] the clinical history of some forms of epithelioma. Collections of horny scales are not infrequently observed which are firmly adherent to the surface of the skin. If these scales are carefully raised, numerous projections are seen upon their inner surface, penetrating the follicles. After removal the skin is not found excoriated, but covered with a delicate epidermal layer, and the papillæ in such parts are hypertrophied. This condition may last for years, and finally terminate in active hyperplasy of the epidermal projections within the cutis, or, in other words, in a cancerous ulcer. If such collections of epidermal masses are prevented from forming, and also the permanent irritation of the cutis, we may hinder the formation of carcinoma. For this purpose he advises the removal of the scales by the application of a solution of soda (from 1 to 2.5 per cent.) upon cloths, and subsequently washings with a weaker solution. By these means, he states, relapses are far less common. Collections of horny, epidermal matter, upon the surfaces of old people especially, are always to be regarded with suspicion.

On the Use of Linseed and its Oil. — Dr. Sherwell, of Brooklyn, read a paper [3] before the Saratoga meeting of the American Dermatological Association upon the therapeutical value of linseed in skin diseases. Inferring from its nutritive effect upon animals that it would act in a similar way upon man, he used it both externally and internally in harsh and dry conditions of the skin, chronic eczema, ichthyosis, xeroderma, pityriasis rubra, etc. He presents details of four cases, in the recovery of which he attributes the chief agency to this material. He employs three methods of administration. In the first the patient carries about with him a pocketful of the raw seed, that from Calcutta preferred, and eats it at intervals during the day. In this way a cupful may easily be disposed of. As the seed contains thirty per cent. of oil a considerable quantity is thus easily assimilated. In the second way the seed is coarsely ground and made into a porridge with milk, of which an ounce or more may be taken at a time. In the third the meal may be made into bread and eaten, but he does not give this equal value with the raw methods. Externally the oil is praised for its bland and soothing properties, and for its slight tendency to decomposition. Flesh was rapidly gained by its internal and external use in the cases cited, and the skin assumed a healthy state in a surprising manner.

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[1] Archiv für Heilkunde, June 15, 1878.

[2] Vierteljahresschrift fur Derm. und Syph., from Langenbeck's Archiv, 21 Band.

[3] Archives of Dermatology, October, 1878.

Unguentum Vaselini Plumbicum. — Professor Kaposi, of Vienna, proposes [1] a new use for vaseline, — its substitution for olive or linseed oil in the manufacture of the diachylon ointment of Hebra. It is well known that a decided objection to this most valuable remedy exists in the penetrating, disagreeable odor, in consequence of the decomposition of the oil in the process of heating with the lead. Vaseline is not decomposed under these conditions, and the ointment prepared from it is odorless, and remains unchanged in this respect when applied to the skin. It has the same consistency as the ordinary salve, and possesses no irritating properties when applied to the inflamed skin. It is made by heating together equal parts of empl. diachyl. simplex and vaseline. It may be perfumed with a trace of oil of bergamot or lavender, or with Peruvian balsam. Vaseline itself, Kaposi finds, possesses no active properties whatever upon diseased skin, acting merely as an emollient.

THE DEDICATION OF THE BUILDING AND HALL OF THE BOSTON MEDICAL LIBRARY ASSOCIATION.

It is long since the occurrence in this city of a medical event of such marked interest as the dedication of our new Medical Library Building, which took place on Tuesday evening, December 3d. The building is situated at No. 19 Boylston Place, and is therefore central and yet retired. In our edition of November 28th, somewhat at length we referred to it, as well as to the hopes and intentions of the association. In the audience of about 160 physicians on the evening in question, there was a common feeling of admiration, surprise, and wonder. Admiration was excited by the beautiful hall, with its soft, brilliant light, its graceful galleries, and the admirable management of heat and ventilation; by the really charming apartments on the next story; and by the good taste of the whole. Surprise was natural, when one considered how much had been achieved with limited means in a relatively short space of time. Here were a fine building with every convenience, and a library of 10,000 volumes, the result of four years' work on the part of a very few young men; we might almost say of one indefatigable spirit, without whose indomitable energy the library would not have been gathered. One could hardly refrain from wondering how we had managed to exist without this attractive medical centre, which it is believed will open the way to greater intimacy and mutual interest between the members of our profession in this State and city.

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[1] Wiener mediz. Wochenschrift, No. 17, 1878.

Dr. Oliver Wendell Holmes, president of the association, on calling the meeting to order, invited Dr. Fordyce Barker, of New York, to a seat by his side. He then called upon Dr. Charles P. Putnam, chairman of the building committee, for his report, in which it appeared that the rapid growth of the library had driven the association out of Hamilton Place, where books not only accumulated in piles, but where there were insufficient means of protection against fire. The ground lot of the building measures 60 by 27½ feet. An L of one story has been added, which lengthens the hall, and provides an immense lantern, which is closed from below by valves of ground glass, is supplied with numerous gas jets for evening use, and a glass roof, through which the sunlight may pour during the day. In summer the lantern can be used as a cooler. Heating and ventilating arrangements are so absolutely perfect that not only can the temperature of the hall be strictly controlled, but the movement of air can be kept at the rate of two feet per second, thus securing constant renewal of the air, yet without perceptible draughts. We cannot give full details of these arrangements, but may say they are as perfect as ingenuity can make them. Many of the suggestions came from Dr. John S. Billings, of Washington, and Dr. Edward Cowles, of the City Hospital. The hall on three sides is provided with galleries reached by winding staircases which continue on to the apartments above. These galleries create largely increased and available space for books. The second story is devoted to the journal and magazine room and the reading room. The third story is occupied by the resident assistant librarian, Dr. Edwin H. Brigham; and there are likewise two or three spare rooms, which may be used by committees or for other medical purposes. The building was purchased (not leased, as the *Advertiser* stated), and has upon it a mortgage of $8000; there is also now due a debt of $4000. Heretofore, subscriptions have not been publicly invited, but funds have been obtained by private solicitation. Dr. Putnam expressed the hope that friends of the association would continue their former liberality, and remarked that any sum, however small, would be gladly received. In closing, he paid a high compliment to Dr. J. R. Chadwick, to whose courage, energy, and untiring cheerfulness the whole affair is due.

The president, Dr. Holmes, then read an address which is published in full in the JOURNAL. We can say nothing of the wit and grace of Dr. Holmes's pen which has not been said a thousand times before. Of these characteristics the address was full to overflowing. Charles Lamb could not have made the mouth water as did the Professor on this occasion. His pride in the library, his intense interest in its success, and his admirable suggestions deserve remark which we have not space to give. His witty but earnest recognition of the activity of Dr. Chadwick in building this library was more than deserved, and it is from such a source that the gentleman to whom the profession is so much indebted should receive the praise he has earned.

Dr. Holmes next introduced Dr. J. S. Billings, U. S. A., librarian of the National Library at Washington, who said: —

"I appreciate very highly the privilege of being present at this meeting, as well as the honor of being called on to address such an assemblage, and I shall prove that appreciation by being very brief in my remarks. I had the pleasure of hearing the first report of your librarian, and the progress of your collection shows that you need no advice that I could give. You have already reached that stage of development when you are having practical experience of the truth of that maxim which should be always in the mind of the librarian, namely, 'Unto him that hath shall be given,' and are close on the period when a new set of difficulties will arise, being those pertaining to collections of ten thousand volumes and upwards.

"I think I can best occupy the few moments which I propose to take by telling you something of the rise and progress of the Medical Library at Washington, of which I have charge. This library is now nearly thirteen years old; it contains about forty-eight thousand volumes and the same number of pamphlets, and is one of the best working medical collections in the world. This growth has been due to purchases, to exchanges, and last, but by no means least, to the liberality and public spirit of many members of the medical profession of this country, whose contributions have been large and numerous. To secure these contributions, however, requires in most cases personal application, and I used to search for them on upper shelves and in the closets and garrets of physicians with great success. On one occasion, however, I met with a cruel disappointment. On going into a physician's office I found a fine large book-case with glass doors, behind which appeared a goodly series of volumes in paper covers, neatly lettered on the back, and on examining the titles I found that they included complete series of some of the rarest of our medical journals, a class of publications which I have been specially anxious to secure, and that in fact there were three journals of which I had never even heard the names. The book-case was locked, and I eagerly requested of the doctor that he would open it and let me see these treasures, telling him that I *must* have them. He was very reluctant to comply, did not know where the key was, etc., but finally opened the case, and explained to me that a friend of his who was a member of Congress had sent him a large number of copies of Patent Office reports and diplomatic correspondence, and that these, neatly covered and labeled, had served to give his book-case such an attractive appearance.

"I have been often asked how many medical books we have yet to procure in order to make our library complete, and as it must be presumed that you also are aiming at perfection some data on this point may be of interest.

"Counting each work as one, regardless of the number of editions it may have passed through, I think that of medical books which ought to be in our national medical collection we have about one half.

"We can usually furnish the originals for seventy-five per cent. of the references given in modern medical works and bibliographies, and this is due to the fact that a large proportion of such references is always to articles in periodicals, and that we have succeeded in obtaining over eighty per cent. of all the medical journals and transactions which have been published throughout the world.

"So much has been said by the medical press within the last year or two about our index catalogue that I presume you are all familiar with its scope.

"Up to the evening of November 30th we had indexed the original articles in 13,901 volumes of journals, 3293 volumes of transactions, and 725 volumes of sanitary and hospital reports and miscellaneous, — in all 17,919 volumes. We are receiving at the present time, and regularly indexing before placing them on the files, 372 medical journals and 201 series of medical transactions, and in addition to these we receive about 140 journals and 100 series of transactions, which are partially indexed.

"It is to be hoped that when, a hundred years hence, your librarian makes out his centennial report, he will be able to congratulate you on the fact that there has been a decided diminution in quantity of this class of publications during the century, and at the same time may be able to report that, with one exception, the most complete and useful medical library in the world is that of the Boston Medical Library and Journal Association."

At the close of Dr. Billings's remarks, the president read a telegram from the Kings County Medical Society of Brooklyn, then celebrating an annual festival, conveying greetings and best wishes to the association.

Mr. Justin Winsor, librarian of Harvard University, then followed in brief and eloquent remarks, in which he complimented Dr. Billings by denominating him the greatest medical bibliographer in this or any other country. He expressed the opinion that if any one thing entitled managers of libraries to a place in the ranks of those who pursue a science it is their coöperation with students. In former days, the merchant went home late at night, because he was kept by the necessity of making up reports for his foreign correspondents; now he goes home at four P M., certain that all news of importance will be ticked across the ocean by one man for all men. Such may be said to be the relation of the librarian to students. His part is to open the way which they wish to follow. The collection of medical works in the Public Library amounts to perhaps 10,000 volumes, to which should be added cognate works on chemistry, etc. This would increase the number to 12,000 or 15,000. It seems quite unwise to have two independent collections so near each other, when a passage might connect them. He could not yet point out details of the desired coöperation, but thought the time would come when the two libraries and that of the Medical School could be brought into coöperating relations; and this matter he commended to the librarian, to the dean of the Harvard Medical School, and to the president of Harvard University.

Dr. George H. Lyman, president of the Massachusetts Medical Society, was next introduced. He feared he could say nothing of interest, but as a representative of the Massachusetts Society he wished to acknowledge the compliment paid the society through him. He acknowledged all that had been done for the medical profession and the community at large by the establishment of this library. From its inception, the Massachusetts Medical Society made it a prime object to induce members to write essays, to investigate new remedies, epidemic diseases, and everything of interest. When ten years had elapsed, the society had sufficient material for a volume of transactions. The first thing then done was to send two copies to the maternal library at Harvard. As early as 1786, £20, a large sum in that day for a small society, was voted for the purchase of books. Later, the sum was increased, little by little the library grew, and only within three years was given up to the Public Library, where it will be found to contain many curious and rare books. Dr. Lyman claimed that this new library was a legitimate outgrowth of efforts of the Massachusetts Medical Society. It is through its education of medical men that such an institution has been made possible.

Charles W. Eliot, president of Harvard University, then said that for two hundred years Harvard College has tried to do its part in educating the community; and its sympathies with all efforts in this direction have been and are unfailing. It was with great delight that he saw the success and vigor of this library, which in professional character resembled the Social Law Library and the General Theological Library; it is also of great interest to the university's medical school. All would agree with him that teachers should have ready access to books. Yesterday a rule was adopted at the Cambridge library to the effect that professors should have the first claim to books. He commended the rule to this association. He hoped that medical students also would have access to the library, and expressed the greatest interest in any organization which promotes learning, science, and literature. He saw in this library association an example of the true American method of self-reliant and independent action without governmental interference or help. In Massachusetts the profession is defended by the state medical society, an organization of the profession itself. So is this library a creation of the profession for its own advancement.

Dr. David P. Smith, of Springfield, vice-president of the Massachusetts Medical Society, then expressed his warmest congratulations, and urged that the benefits of the association be extended to the whole State, and hoped branch libraries would be established, so that in some way all the members of the faculty throughout the State might be reached. A hall like this, devoted to medical purposes, he considered a medical club-house. It would create a unity in the profession, — a common interest. He hoped such would be the result, for we all need to have the elbow touched by comrade true. And it should be impressed upon us that we are not so much servants as leaders of the community. We should be taught to take a higher place in our own estimation.

In introducing Dr. H. I. Bowditch, vice-president of the Library Association, the president reminded the audience that it was at Dr. Bowditch's house that the first meeting was held which culminated in this library.

Dr. Bowditch began his remarks by the suggestion that not only the profession but the laity owes a debt of gratitude to the young men whose efforts have procured for us this beautiful hall, this fine auditorium, its adjacent rooms, and the valuable library. He thought the association should be supported by the laity as well as by the profession. The establishment of this library was the consummation of his wishes. It will increase the culture of the whole profession of Massachusetts, and thereby benefit all the people therein. He knew some of the difficulties which had been met, and had admired the tact and perseverance of the young men who had so nobly overcome them. He felt that we could now call upon the laity for assistance; that those who were inclined could add a codicil to their wills in behalf of the library, or in some way offer aid through gifts.

He had seen two failures in attempts to found a library. He first established the pamphlet library of the Society for Medical Observation, now a part of this collection. The second, occurring in the Suffolk District Society, failed on the ground that the public library could do more than the profession itself.

Dr. Bowditch's second topic was the very interesting history of a gift which he proposed to offer to the association after the close of the meeting. He was happy to think it was the first gift which would follow the inauguration, and hoped it would overlook a successful future. Some years ago, during the early period of the civil war, a man came to his study who evidently was suffering from some severe thoracic disease. Dr. Bowditch saw that he was a German gentleman of education, but poor. He attended him until his death, after which the widow requested Dr. Bowditch to take charge of her papers, etc., among other things the ancestral tree of her husband and two books of autographs. He then found that his patient was the descendant of a noble family which originated in 1386. Disgusted by the tyranny of Europe he came to this country, but unfortunately when slavery was in full force, when even Massachusetts was under the rule of the fugitive slave law. The man was disappointed, and gradually failed and died. In the autograph books are seen many noble names; among them that of Fabricius Hildenus, the father of German Surgery, dated at Berne, 1626. Hildenus was not so great as John Hunter, the father of English surgery, but in relation to the history of surgery in Germany the autograph is of great interest. He had had it framed and dedicated for deposit in the library. He pleasantly told the story of how the autograph finally became his. On the back of the same leaf is the autograph of a lawyer not known to history, but whose Latin mottoes written under his signature showed him to be a man of sense.

Dr. Chadwick moved a vote of thanks for the generous gift. The motion was seconded and passed.

Dr. Billings, in the course of his remarks, having mentioned the extreme difficulty of securing appropriations for the index of the National Library, Dr. J. B. S. Jackson now moved that a committee of five be appointed by the president for the purpose of memorializing Congress in regard to this matter. Seconded and passed. Dr. Holmes will announce the names of the committee hereafter.

The exercises then terminated. There was but one opinion in regard to the hall, the rooms, and the library, and that has already been made evident. At intervals during the evening there was some agreeable singing by gentlemen of the association.

The officers of the association are as follows: president, Oliver Wendell Holmes, M. D.; vice-president, Henry I. Bowditch, M. D.; secretary, Oliver F. Wadsworth, M. D.; treasurer, Thomas M. Rotch, M. D.; librarian, James R. Chadwick, M. D.; assistant librarian, Edwin H. Brigham, M. D.; executive committee, Drs. Frederick I. Knight, Edward Wigglesworth, William L. Richardson, Charles P. Putnam, and Frederick C. Shattuck.

MEDICAL EDUCATION IN GERMANY.

At the instigation of the Imperial Board of Health, a commission of experts was recently appointed to revise the law with regard to examinations for licenses to practice medicine in Germany. The examining bodies, according to their report, shall be appointed for each year by the central authorities of the various states, upon consultation with the faculties of the various universities. The candidate must present evidence of having graduated at a *gymnasium;* of having studied medicine nine half years at a German university, — the chancellor of the empire to decide how far an equivalent length of study in foreign universities is to be accepted; of having passed the university examination in the first two years' study, the *Vorprüfung;* and of having passed a year in the practical clinical study of surgery, medicine, and obstetrics, and a half year in the ophthalmic and insane clinics, that is, in all the above cases, as *Praktikant.* Six months' work as assistant in an approved hospital are accepted in place of one semester of study in the university. The subjects on which there are careful examinations comprise anatomy, including histology and preparation of microscopical specimens; physiology; pathology, with a practical demonstration of the parts in a post-mortem section; surgery, clinical, theoretical, and operative; clinical medicine, toxicology, and therapeutics; obstetrics and gynæcology; psychiatry and hygiene. Chemistry, apparently, is not included farther than it would come under the head of clinical medicine, where also would come syphilis and diseases of the skin. Instead of a half year of practical work in the clinic studying insanity, it is accepted as an equivalent if the candidate has been an actual assistant at work in an insane asylum for six weeks.

The alternative method suggested, namely, of six weeks' work as assistant in an insane asylum, furnishes the key to the solution of the difficult question of education in insanity for students in many of our American colleges. There are so many practical difficulties in the way of teaching large classes in our insane asylums, where there are patients often of nearly all social grades, where the asylums offering the best facilities for study are too apt to be remote from the medical centres, and where the student can easily give one vacation or a couple of months, after finishing his regular course, to a little extra hospital work, that this method really seems to promise more favorably than any other. A medical superintendent of a hospital for the treatment of mental disease is rarely adequately supplied with assistant physicians; he could easily employ a half dozen students in clinical work, which would be of advantage equally to themselves and to the hospital and patients. But it is not necessary for us to repeat the arguments which we have brought forward in a previous number in favor of such an arrangement.

In this connection it is interesting to note the requirements for graduation in the medical department of the university at Munich, adopted early in the present year, where four years' work are insisted upon, and at least five years' work advised, in view of the great demands upon the students' time. The course of study is as follows: First semester: physics, general chemistry, anatomy, osteology, and general botany; second semester: anatomy, organic chemistry, systematic botany, physics, mineralogy, and practice in the chemical laboratory; third semester: physiology, dissecting, zoölogy, histology, and medical physics; fourth semester: comparative anatomy, physiology, surgical anatomy, embryology, microscopy, physiological *cursus*, and practice in the chemical laboratory; fifth semester: first, the *tentamen physicum* or *Vorprüfung*, referred to above, then obstetrics, general pathology, and pathological anatomy, therapeutics, surgery, special pathology, and treatment; sixth semester: pathological anatomy, surgical clinic, medical clinic, where skin diseases are also taught as well as at the policlinic, obstetric clinic, history of medicine, policlinic, operative surgery, diagnosticating *cursus*, dispensing *cursus*, special pathology, and treatment; seventh semester: surgical, medical, obstetric, and ophthalmic clinic, practice in pathological anatomy (sections), policlinic, children's clinic, diseases of the eye, course on the ophthalmoscope, syphilis, and laryngoscopy; eighth semester: surgical, medical, obstetric, ophthalmic, and syphilis clinics, policlinic, diseases of women, hygiene daily for three months, medical jurisprudence, insanity, surgical operative course and practical instruction in the surgery of the eye; ninth semester: the great *Staats-Examen*, the thoroughness of which we already know.

MEDICAL NOTES.

— We publish this week one of our enlarged numbers, in order that we may give to our readers a report of the proceedings at the inauguration of the new Medical Library Building, and the address of Dr. Holmes in full. To such an ardent lover of books the theme was a congenial one, and those who heard the address will read it with renewed pleasure. As the sparkling sentences recall to them the wit and wisdom which flowed from the lips of the presiding genius, as they could have done from no other source, they, as well as those who were not present, even the professional "wet blankets" we hope, will feel that the association and the occasion afforded an opportunity worthy of its president's most brilliant advocacy. The interesting addresses of Professor Winsor and President Eliot, of Harvard College, with the valuable remarks of Dr. Billings, librarian of the National Medical Library at Washington, and those of Drs. Lyman and Bowditch of Boston, and Smith of Springfield, are reported elsewhere. We have little to add except to congratulate Dr. Chadwick and the efficient committees of the library on such a gratifying result of their public-spirited labors, and to bespeak the active interest of all our readers in an institution which will prove of practical value to medical men at a distance which renders libraries inaccessible.

— We venture to suggest that during nine months of the year there be one night set apart in each month for a social gathering of members of the Medical Library Association and others at the library rooms. It should be called "club night;" there should be very simple refreshments provided out of small, voluntary contributions. The general endeavor should be the cultivation of more sociability between physicians, especially between the older and younger members of the profession, whose relations thus far, we fear, have been too strictly professional.

— The following classification and nomenclature of skin diseases were adopted by the American Dermatological Association, August 29, 1878: —

Class I. Disorders of the Glands.

1. Of the Sweat Glands: Hyperidrosis. Miliaria crystallina. Anidrosis. Bromidrosis. Chromidrosis.
2. Of the Sebaceous Glands: Seborrhœa: *a.* oleosa; *b.* sicca. Comedo. Cyst: *a.* Comedo; *b.* Wen. Molluscum sebaceum. Diminished secretion.

Class II. Inflammations.

Exanthemata. Erythema simplex. Erythema multiforme: *a.* papulosum; *b.* bullosum; *c.* nodosum. Urticaria. Dermatitis:[1] *a.* traumatica; *b.* venenata; *c.* calorica. Erysipelas. Furuncle. Anthrax. Phlegmona diffusa. Pustula maligna. Herpes: *a.* facialis; *b.* progenitalis. Herpes zoster. Psoriasis. Pityriasis rubra. Lichen: *a.* planus; *b.* ruber. Eczema: *a.* erythematosum; *b.* papulosum; *c.* vesiculosum; *d.* madidans; *e.* pustulosum; *f.* rubrum; *g.* squamosum. Prurigo. Acne. Impetigo. Impetigo contagiosa. Impetigo herpetiformis. Ecthyma. Pemphigus.

Class III. Hæmorrhages.

Purpura: *a.* simplex; *b.* hæmorrhagica.

Class IV. Hypertrophies.

1. Of Pigment: Lentigo. Chloasma: *a.* locale; *b.* universale.
2. Of Epidermal and Papillary Layers: Keratosis: *a.* pilaris; *b.* senilis. Callositas. Clavus. Cornu cutaneum. Verruca. Verruca necrogenica. Xerosis. Ichthyosis. Of Nail. Hirsuties.
3. Of Connective Tissue: Scleroderma. Sclerema neonatorum. Morphoea. Elephantiasis Arabum. Rosacea: *a.* erythematosa; *b.* hypertrophica. Framboesia.

Class V. Atrophies.

1. Of Pigment: Leucoderma. Albinismus. Vitiligo. Canities.
2. Of Hair: Alopecia. Alopecia areata. Alopecia furfuracea. Atrophia pilorum propria.
3. Of Nail.
4. Of Cutis: Atrophia senilis. Atrophia maculosa et striata.

Class VI. New Growths.

1. Of Connective Tissue: Keloid. Cicatrix. Fibroma. Neuroma. Xanthoma.
2. Of Vessels: Angioma. Angioma pigmentosum et atrophicum. Angioma cavernosum. Lymphangioma.
3. Of Granulation Tissue: Rhino-scleroma. Lupus erythematosus. Lupus vulgaris. Scrofuloderma. Syphiloderma: *a.* erythematosum; *b.* papulosum; *c.* pustulosum; *d.* tuberculosum; *e.* gummatosum. Lepra: *a.* tuberosa; *b.* maculosa; *c.* anæsthetica. Carcinoma. Sarcoma.

Class VII. Ulcers.

Class VIII. Neuroses.

Hyperæsthesia: *a.* Pruritus; *b.* Dermatalgia. Anæsthesia.

Class IX. Parasitic Affections.

1. Vegetable: Tinea favosa. Tinea trichophytina: *a.* circinata; *b.* tonsurans; *c.* sycosis. Tinea versicolor.
2. Animal: Scabies. Pediculosis capillitii. Pediculosis corporis. Pediculosis pubis.

SANITARY NOTES.

— We propose hereafter to give from time to time information and statistics of interest concerning sanitary and quarantine matters; the general state of health in the city; comparisons between health statistics of different years and seasons, and such other items in this direction as may be deemed readable. In the newspapers we have Mr. Apollonio's weekly report of deaths and their causes, but the instructive facts which may be deduced when these statistics are presented in another form it will be our endeavor to cull out for publication in the Journal. We take this opportunity to remark that any items touching sanitary matters, carelessness in the care of infectious cases, or other kindred topics, will be gladly received. Such communications should be very brief, for in any case they will be condensed for this department. The envelope may conveniently be superscribed *Sanitary.* — We find that during the past six months five hundred and sixty-eight vessels have been detained and examined in quarantine. Especial rigidness naturally was exercised during the prevalence of yellow fever. Such vessels as were detained either came from infected districts, or were filthy and required cleansing. So late as last month a vessel was quarantined because of a death on board from yellow fever during the passage. Passengers or seamen who are quarantined are quartered at the hospital on Gallop's Island. But the port physician seldom has other duties than the examination of inward-bound vessels. For this reason he spends but little time on Gallop's Island, and since he otherwise would have much unoccupied time, by a wise arrangement he has been stationed at Deer Island Hospital as second assistant physician, and has a share of the patients of that institution under his care. Quarantine matters in our harbor are generally rather quiet, but we shall occasionally find something of interest concerning them. — The new sewer has been completed on Charles Street, and has turned the corner into Beacon Street (going west), where the patience of the residents is tried in many ways by details of construction. We must, however, express great surprise that the people in that neighborhood permit the water, which constantly is pumped from the old sewer, to flow through open spouts that not only expose it to the air, but provide for the dissemination of odors and gases as disgusting as they are dangerous. Conditions in that vicinity are the same as if there were an open sewer. By proper precautions the water might be entirely covered in its passage from the pumps. The Board of Health should not allow this to go on. It is, however, a remarkable fact that in spite of a faulty drainage system and the natural expectation of a frequency of typhoid fever, there have been during the past six months remarkably few deaths from this disease, as we shall show in a future number.

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[1] Indicating affections not properly included under other titles of this class.

SHORT COMMUNICATIONS.

OBITUARY.

At a regular meeting of the Berkshire District Medical Society held November 27, 1878, the following resolutions were unanimously passed : —

Whereas, Dr. Elisha Williams, for many years a resident of Hinsdale and a member of this society, has been removed by death,

Resolved, That we deeply lament the loss which in his decease the medical profession and the public have sustained.

Resolved, That we remember with pleasure his professional skill and many admirable personal qualities which made him a successful and beloved physician.

Resolved, That our warmest sympathy be extended to his bereaved wife and mourning relatives and friends.

Resolved, That a copy of these resolutions be sent to the wife of our deceased brother, and that they be also published in The Boston Medical and Surgical Journal and both papers of Pittsfield.

A true copy, attest: J. F. A. Adams, M. D.,
Secretary Berkshire District Medical Society.

ABSTRACT OF THE BULLETIN OF THE PUBLIC HEALTH.

Issued by the Surgeon-General U. S. Marine Hospital Service, under the National Quarantine Act of 1878, for the Week ended November 30th. No. XXI.

Office Surgeon-General M. H. S., Washington, *December* 4, 1878.

Yellow Fever. — During the week ended November 29th very few new cases or deaths occurred at any of the infected points. At Mobile there were three cases and one death; at New Orleans there were eight deaths, no new cases reported; at Memphis there were two deaths; at Greenville, Miss., one death, — a refugee.

Boston, Mass. — For the week ended November 30th there were 149 deaths from all causes, being an average annual death-rate of 22.1 per 1000 of the population. There were 13 cases of scarlet fever and five deaths, 14 cases of diphtheria and seven deaths, and three deaths from enteric fever.

Connecticut. — The report of the State Board for October shows 82 deaths in New Haven and 66 in Hartford. Thirty-four per cent. of the deaths were from preventable diseases generally traceable to unsanitary conditions. In Orange a whole family were seriously poisoned by well-water contaminated by a drain from a sink.

Brooklyn, N. Y. — For the week ended November 23d the total deaths were 184, an average annual death-rate of 17.2. There were 33 cases of scarlet fever and eight deaths, 41 cases of diphtheria and 14 deaths, and 60 deaths from diseases of the respiratory system.

Philadelphia, Pa. — There were 295 deaths from all causes in the week ended November 23d, an average annual death-rate of 17.5. There were 13 deaths from scarlet fever and 11 from diphtheria.

Baltimore, Md. — During the week ended November 23d there were 106 deaths from all causes, an annual death-rate of 15.5 per 1000. Diphtheria caused nine deaths, scarlet and enteric fevers five each, and phthisis 16.

District of Columbia. — The average annual death-rate for October was 24.9. Preventable diseases caused nearly one third of all the deaths.

Richmond, Va. — During the week ended November 23d there were 25 deaths, an average annual ratio of 16.45 per 1000 of the population. In the week ended November 30th there were 20 deaths, a ratio of 13.16 per 1000.

Cleveland, Ohio. — For the week ended November 30th the total deaths were 56, a mortality-rate of 11.9 per 1000. There were 25 cases of diphtheria and 15 deaths, six cases of scarlet fever and two deaths.

Milwaukee, Wis. — Week ended November 23d total deaths 36, mortality-rate 15.2. There were 23 cases of diphtheria and two deaths.

St. Louis, Mo. — For the week ended November 16th, in an estimated population of 500,000, there were 83 deaths reported, an average annual death-rate of 8.63 per 1000. In the preceding week the average death-rate was 10.5.

Charleston, S. C. — Week ended November 23d. Total deaths 37. Mortality-rate 38.5.

Savannah, Ga. — Week ended November 15th. Total deaths 18. Annual ratio 26.

Selma, Ala. — The annual ratio of deaths per 1000 for July was 40.7, for August 52, for September 34, and for October 23.

New Orleans, La. — For the four weeks ended November 17th the deaths from all causes were respectively 310, 193, 154, 135; the deaths from yellow fever were 177, 69, 31, 29; from "malarial" fevers 29, 19, 12, 7; from phthisis 15, 15, 23, 21. Annual rate of mortality for the four weeks was 40, for the week ended November 17th 34.4.

Havana, Cuba. — In the week ended November 30th there were eight deaths from yellow fever and six from small-pox.

Bermuda. — No deaths occurred in a population of 15,200 during the week ended November 26th.

Rio de Janeiro. — Total deaths for the four weeks ended November 2d 1287, being a mortality-rate of 55.77 per 1000. There were 449 deaths from small-pox, seven deaths from typhus, 13 from enteric fever, 34 from "pernicious" fever, and 10 from yellow fever. The small-pox is raging with great intensity in the province of Cará.

BAHIA. — For the week ended October 31st there were 57 deaths, a mortality-rate of 22.6 per 1000. The deaths include seven from small-pox and three from typhus fever.

NINGPO, CHINA, a city of 400,000 inhabitants, has no health board or hospitals. The prevailing diseases are diarrhœa, enteric and typhus fevers, consumption, small-pox, and cholera. The latter disease does not prevail epidemically.

SINGAPORE. — The port and island are reported free from infectious diseases up to October 16th.

VIENNA, AUSTRIA. — For the two weeks ended November 2d there were 692 deaths from all causes, an annual death-rate of 24.75 per 1000. The deaths include 15 from small-pox, 12 from enteric fever, six from scarlet fever, and 38 from diphtheria.

GIBRALTAR. — Week ended October 26th; there were 30 deaths, a mortality-rate of 26.3.

GREAT BRITAIN. — For the three months ended September 30th there were 129,348 deaths in England from all causes, being an average annual rate of 20.6 deaths in 1000 of the population. In twenty large cities and towns the death-rate for the quarter year was 23.7. Twenty-three per cent. of the total deaths were from seven preventable diseases. There were 17,528 deaths from diarrhœa, 4348 from scarlet fever, 2719 from other fevers, 649 from diphtheria, and 179 from small-pox. All but 16 of the fatal cases of small-pox occurred in London and its immediate vicinity. The percentage of deaths from diarrhœa was 3.7 per 1000 of the residents of cities against 1.5 per 1000 in the rural districts.

In twenty large English cities and towns having an aggregate population of seven and a quarter millions, the average annual death-rate for the four weeks preceding November 9th was successively 20, 21.6, 22, and 24.3, the increase being due to the greater fatality of pulmonary diseases.

LONDON. — The deaths from all causes for the week ended November 9th were equal to 23.2 per 1000 in the city proper and to 18.3 in the suburbs. There were 119 cases of small-pox in the hospitals and nine deaths. Eight out of the nine deaths were certified as unvaccinated.

LIVERPOOL. — For the week ended November 9th there were 263 deaths, an average annual death-rate of 25.7 per 1000. Scarlet fever caused 34 deaths, enteric fever eight, diphtheria four.

EDINBURGH. — The death-rate per 1000 for the week ended November 9th was 23. Nearly fifty per cent. of the deaths were due to pulmonary diseases.

GLASGOW. — The death-rate has continued steadily at 21 per 1000 for six weeks.

IRELAND. — For the three months ended September 30th the whole number of deaths was 20,390, an annual rate of 15.2 per 1000. Diarrhœa caused 708 deaths and small-pox 249. Seven preventable diseases caused 13.4 of the total deaths.

DUBLIN. — For the two weeks ended November 9th the deaths from all causes were 296, a mortality-rate of 24.5. There were eight deaths from small-pox, making 468 deaths from this cause since January 1, 1878.

On the Island of St. Kilda the deaths exceed the births in the ratio of three to two and a half. Ninety per cent. of the infants born on the island die of "trismus nascentium," probably induced by both the nursing mothers and the infants being fed almost wholly on the excessively fatty flesh of the petrel.

GERMAN EMPIRE. — During the two weeks ended November 9th there were 10,490 births and 6535 deaths in one hundred and fifty cities and towns of 15,000 inhabitants and upwards, having an aggregate population of 7,400,000. The average annual rate of mortality was 22.9 per 1000 of the population against 24.3 for the week ended October 19th. The deaths include 318 from diphtheria, 228 from scarlet fever, and two from small-pox. Phthisis caused the death of 891 persons. JOHN M. WOODWORTH,

Surgeon-General U. S. Marine Hospital Service.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 30, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	474	22.55	23.42	28.71
Philadelphia.	876,118	299	17.75	18.80	21.54
Brooklyn.	549,438	155	14.67	21.51	25.50
Chicago.	460,000	146	16.50	17.83	22.39
Boston.	375,476	149	20.63	20.10	24.34
Providence.	100,000	33	17.16	18.81	19.20
Lowell.	55,798	13	12.12	19.09	22.50
Worcester.	54,937	14	13.26	20.06	22.30
Cambridge.	53,547	16	15.53	18.69	20.83
Fall River.	53,207	38	37.14	21.35	24.96
Lynn.	35,528	12	17.57	20.42	19.67
Springfield.	33,981	9	13.78	16.02	19.77
Salem.	27,140	15	28.74	20.38	21.15

THE METRIC SYSTEM IN MEDICINE.

OLD STYLE.	METRIC. Gms.	
i. or gr. i. equals		06
fʒi. or ʒi. equals	4	
f℥i. or ℥i. equals	32	

The decimal *line* instead of *points* makes errors impossible.

As .06 (Drug) is less than a grain, while 4. and 32. (Vehicle) are more than the drachm and ounce, there is no danger of giving too large doses of strong drugs.

C. C. used for Gms. causes an error of 5 per cent. [excess].

A teaspoon is 5 Gms.; a tablespoon, 20 Gms.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting will be held at the hall of the Medical Library, 19 Boylston Place, on Monday evening, December 16th. Dr. J. C. Warren will read a paper on Symmetrical Gangrene of the Extremities.

UNITED STATES MARINE HOSPITAL SERVICE. — Assistant Surgeon Edmund J. Doring has been ordered from San Francisco to Philadelphia to relieve Assistant Surgeon Robert White, ordered to report for duty in the office of the surgeon-general at Washington. Assistant Surgeon F. W. Mead ordered to San Francisco, *vice* Assistant Surgeon Doring transferred as above. Assistant Surgeon J. C. Fisher ordered to Pittsburg to relieve Surgeon George Purviance ordered to Cairo to relieve Assistant Surgeon H. M. Keyes, granted leave of absence.

RHODE ISLAND MEDICAL SOCIETY. — A quarterly meeting will be held in Lyceum Hall, Providence, Wednesday, December 18, 1878, commencing at ten o'clock, A. M., promptly. Papers will be read by Drs. H. G. Miller, Virgil O. Harden, F. O. Whitney, and S. Clapp. Censors' meeting at nine o'clock, A. M. Applicants for membership must send their diplomas, accompanied by a written application indorsed by two Fellows of the society, to the office of the secretary, 310 Benefit Street, Providence, *on the day previous to the meeting.*

W. E. ANTHONY, Secretary.

The president will receive the Fellows of the society at his residence, 113 Washington Street, from three to five P. M.

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THE VALUE OF ABSENT "TENDON-REFLEX" AS A DIAGNOSTIC SIGN IN LOCOMOTOR ATAXIA, WITH AN ANALYSIS OF EIGHT CASES.

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SINCE Westphal's paper[1] in regard to the significance of absent tendon-reflex in the early stage of locomotor ataxia, I have devoted a great deal of time for the purpose of carefully testing the value of this symptom, which has been declared by Westphal to be a constant feature of commencing sclerosis of the posterior columns of the spinal cord. The two forms of reflex tendinous phenomena investigated by Erb[2] and Westphal,[3] and called by them the knee phenomenon (*Knie* or *Unterschenkel-Phänomen*) and foot phenomenon (*Füss Phänomen*), were described as early as 1875. It has been found that if the ligamentum patellæ of the loosely hanging leg or the tendon of the quadriceps femoris of a person in health be struck a smart blow (with the side of the hand, for instance), a more or less violent *kick* will follow, while if the tendo Achillis be struck in the same manner the heel will be raised. In certain conditions, such as sclerosis of the lateral columns, this excitement of the tendon-reflex is so great that if the patient merely stamps his heel upon the floor the whole limb will be agitated by spasmodic movements. In locomotor ataxia it is claimed that such an excitation is impossible, and that the tendon-reflex is absent in all muscles of the affected lower extremity, with the exception of the vasti interni. So important does Erb consider this symptom to be that in his article upon Tabes in Ziemssen's Cyclopædia[4] he says: "In all typical and well-developed cases of tabes, reflex action of the tendons is entirely wanting, even though reflex action of the skin may be present, and even increased. In only one case which I count as tabes, but in which there was as yet no ataxy, but only some initial symptoms, could the presence of reflex action of the tendons of the patella be demonstrated. Whenever the case had advanced to the development of ataxia, or even slight indication of the same, reflex action of the tendons was entirely lost."

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[1] Berliner klinische Wochenschrift, 1878, No. 1, page 1.

[2] Archiv für Psychiatrie und Nervenkrankh., B. v., H. 3, page 792, 1875.

[3] Ibid., page 803.

[4] Cyclopædia of the Practice of Medicine, Am. Trans., vol. xiii., page 575.

Westphal's experiments in regard to this abolition of reflex irritability of the tendons form the basis of such positive assertions that his views have been received almost without reserve by many clinicians. In England, however, cases have been reported which are exceptional so far as Westphal's doctrine is concerned, and in a discussion of a paper read by Althaus before the British Medical Association at its last meeting at Bath,[1] Gowers, Sawyer, and others brought forward several examples. Gowers had seen three cases in which the tendon-reflex was *not* absent, and, as a fact in regard to the occasional absence of this tendinous condition in health, he stated that out of three hundred persons examined several were found in whom the tendon-reflex could not be excited.

Dr. Bannister, of Chicago,[2] in a recent article upon the subject, presented two cases of locomotor ataxia, in both of which the tendon-reflex was if anything exaggerated.

The following eight cases of unmistakable sclerosis of the posterior columns, some of them presenting changes at the fundus oculi, will, I think, throw light upon this subject. For the brief notes I am indebted to Dr. Claddek, resident physician of the hospital. They include the histories of seven men and one woman. The tests for the tendon-reflex were most carefully made, the skin being bared and the force of the blow tested.

Case I. J. McG., aged forty-five, sailor.

Family history: Good.

Previous history: Patient, about twenty years ago, had a sore on his penis followed by secondary symptoms; eight years ago had clap, which had resulted in stricture. His habits had been intemperate, and his occupation subjected him to hardships and exposure. No cardiac, lung, or renal trouble.

Present trouble: Eight years ago, while at sea, he noticed for the first time shooting pains from hips to knees and across back; this was followed a year or two later by difficulty in walking, headache, and buzzing in the ears; pains now became worse, and there was a feeling of constriction around waist; sexual appetite increased to an excessive degree, and he suffered almost continually from priapism; gait became staggering and unsteady, and he was obliged to keep eyes on floor; bowels constipated; feet and legs numb.

Present condition: Patient is a large, powerful man, bronzed by exposure, and very muscular; has lost no flesh or strength, has no paralysis, cannot stand with eyes closed, walks with feet wide apart, which he throws well out and comes down on his heels. He has "spinal epilepsy" at night, sensibility is diminished, bladder incontinent at times when fatigued, no pain in back, no tenderness on pressure, no ocular symptoms. Marked loss of coördination.

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[1] British Medical Journal, August 31, 1878, page 318.

[2] Journal of Nervous and Mental Disease, October, 1878, page 656.

Tendon-reflex is extinguished in all of the muscles excepting the vasti interni.

CASE II. A. F., aged fifty-three, married.

Family history: Good.

Previous history: Patient has been a temperate man; no evidences of syphilis; has six children living and healthy, the youngest being six years old.

Present trouble: Twelve years ago his legs became unsteady, and he could not walk on a slippery pavement or in the dark, feet became numb, and he had shooting pains in the lower extremities. Two years later had pains in upper extremities, with numbness of fingers. He noticed difficulty in writing and in making fine movements. A little over a year ago there was a feeling of constriction around the waist, and for the first time slight incontinence of urine. Six months ago he was compelled to go to bed, not from loss of power, but from inability to control movements of legs.

Present condition: Patient is still confined to bed; has no loss of power whatever; movements of legs rapid and forcible, but entirely beyond control; marked loss of sensibility of lower extremities, except sense of temperature; well-marked ataxia of upper extremities; pains in limbs, joints, and viscera. Mental condition good, special senses perfect.

Tendon-reflex is absent excepting in the vasti interni muscles.

CASE III. B. J. B., aged fifty-four, single.

Family history: Phthisis.

Previous history: Patient has been a hard drinker; never had syphilis, but he indulged in sexual gratification to an excessive degree. Fourteen years ago he noticed that sexual desire was increased, and erections were vigorous; his legs became numb; soles of feet "had a spongy feeling;" staggering gait; neuralgic pains in lower extremities, and almost complete inability to walk in the dark. Five years later he was compelled to give up work (piano-making), "on account of clumsiness of fingers." Bowels were constipated; no trouble with bladder.

Present condition: Patient is a man of moderate strength; can arise from chair without assistance, and can stand alone with eyes open; gait is ataxic; while sitting down he can kick his legs vigorously; no loss of power whatever; almost complete anæsthesia of lower extremities; no atrophy or contractures of muscles. Special senses unimpaired, except vision; atrophy of both optic disks; has feeling of constriction around waist; bowels constipated; slight incontinence of urine. Mental condition good.

Tendon-reflex of lower extremities is completely extinguished.

Case IV. J. W., aged fifty-two, married.

Family history: Epilepsy; no other disease.

Previous history: Uterine trouble; epilepsy nocturnal in character, occurring first at menstrual epochs; has never been pregnant. About twenty years ago (a year or two after convulsions) noticed headache, vertigo, pain in back, which would shoot down the limbs and through body; marked loss of coördination; general health failed; bowels constipated. The symptoms became worse, with occasional remissions up to seven years ago, when she was confined to bed or chair, being unable to walk without assistance. Epileptic attacks up to a year ago. Loss of coördination, with but very slight loss of power; "spinal epilepsy;" sensation of constriction about the waist and ankles; staggering gait; looking at floor constantly while walking; unable to walk in the dark; brings heels down with a stamp; cannot stand with eyes closed, or even with eyes opened if not looking at floor; marked ataxia of both upper and lower extremities, and impairment of sensibility are the prominent symptoms at present. Mental condition and intellect good; bowels constipated; urine at times alkaline, with deposits of phosphates and epithelium. Examination of chest shows the evidences of chronic bronchitis. Heart normal. Inspiration accomplished with an apparent effort, and is done mainly through action of diaphragm. Tongue protrudes straight and without tremor. During the past year she has made remarkable progress towards apparent recovery, being able to walk with a cane. Vision $\frac{20}{40}$; ophthalmoscopic examination reveals atrophy of both nerves to a slight extent. Tendon-reflex is wanting in all of the muscles of lower extremities, excepting the vasti interni.

Case V. F. A., aged fifty-nine, married.

Family history: Good.

Previous history: Patient has always been a healthy man, temperate, no history of syphilis.

Present trouble: In 1864 patient noticed numbness of lower extremities, unsteady gait, pains in back and legs and thighs; could not walk in the dark. Two years later there was a feeling of constriction around waist, dimness of vision, and extreme difficulty in performing complicated movements. No loss of power. No trouble of bladder or rectum. Four years ago he had a convulsion, which was probably epileptic; since then has had four or five; the last one occurred eighteen months ago.

Present condition: Patient is a large, muscular man. He cannot arise from chair without using hands, nor stand without assistance; in attempting to walk he spreads his legs, throws feet far out, and comes down on heels. There is no muscular atrophy or contracture. No loss of power in legs. Almost complete anæsthesia of lower extremities; sensation but slightly impaired in the upper extremities. Tendon-reflex is markedly exaggerated. A slight blow on the ligamentum patellæ produces a violent response, which is repeated again and again with increased violence (sometimes amounting to over two hundred movements). Capillary circulation of legs good. Organs of special senses, excepting the eyes, are unaffected. Atrophy of both disks to a varying extent.

Case VI. J. F., aged fifty-seven, married.

Family history: Good.

Previous history: Patient has been a temperate man, and has always enjoyed good health up to onset of present trouble. Two years ago he had an attack of jaundice, and at the same time noticed difficulty in walking, numbness of lower extremities, feeling of constriction around waist and ankles; no headache or pain in back; characteristic pains in lower extremities. Difficulty in walking steadily progressed. Six months ago his hands became affected. Sexual desire for the last two years has been extinguished.

Present condition: Patient is anæmic and is of cachectic appearance; can arise from a stool unassisted; cannot stand with eyes closed; gait is ataxic; no atrophy or paralysis; marked anæsthesia. Sensibility to temperature remains, but is impaired; bowels constipated; slight incontinence of urine; has shooting pains in extremities, with marked loss of coördination. Mental condition depressed, and he has an anxious expression. Power of legs perfect. Tendon-reflex is well marked in all of the muscles of lower extremities.

Case VII. J. G., aged forty, married.

Family history: Unimportant.

Previous history: Patient has been a moderate drinker; he denies syphilis, and fails to show evidences of it. Ataxia commenced in 1874; at that time there was difficulty in walking in the dark, numbness of legs, — could not tell what he was walking on; also experienced shooting pains down legs, constriction around waist, and frontal headache. There was "spinal epilepsy" in left leg only. Sexual desire was not abnormal. Incontinence of urine, after unusual exertion, was noticed six months later.

Present condition: Patient is rather spare and poorly nourished; hair gray; capillary circulation feeble; gait decidedly ataxic; cannot stand with feet together and eyes closed; in walking he throws feet out, and comes down on heels. There is anæsthesia of lower extremities and ataxia of both extremities. Power of legs normal. Vision impaired.

Tendon-reflex increased; is much more than normal in all of the muscles.

Case VIII. J. L., aged fifty-nine, married.

Family history: Good.

Previous history: Patient has been a hard drinker; has had frequent attacks of "subacute rheumatism," and in 1859 had an attack of acute nephritis.

Present trouble: In 1861 patient noticed difficulty in walking, especially in the dark; would stumble, and sometimes fall; feet felt asleep; could not tell what he was walking on; bowels constipated; no trouble with bladder. Symptoms steadily progressed up to 1867, with occasional remissions; at this time was obliged to use crutches. At the onset of trouble his sexual desire and capacity were increased. Pains in lower extremities. For the last few years his condition has remained unchanged.

Present condition: Patient is a large man. No muscular atrophy or contractures, no loss of power whatever; cannot stand with eyes closed, but can with them open; cannot tell where his feet are when eyes are closed; well-marked ataxia of both upper and lower extremities; sensibility, excepting that to temperature, diminished; special senses almost unimpaired, except slight dimness of vision due to atrophy. Tendon-reflex well marked, being rather more than normal.

Of these cases, then, one half present Westphal's symptom, while in the other, the tendon-reflex is not only present, but in some instances is markedly increased, there being no apparent involvement of the lateral columns, or any other part of the spinal cord. The cases present all manner of distributed posterior sclerosis, and the cervical, dorsal, and lumbar regions are implicated. In Case IV., for instance, it is probable that there is some cerebral sclerosis as well, but in this case the "knee phenomenon" was absent. In Case V. the most remarkable of all, the irritability of the tendons was greater than I have ever seen it in any other form of spinal disease. When the ligamentum patellæ was struck ever so lightly, the movement of the foot would begin, and without fresh stimulation continue for some time, increasing in frequency, the intervals growing less. In this case the triceps, as well as the flexors of the fore-arm, were easily put in motion.

In regard to the stage of the disease, I regret to say that most of these cases presented advanced symptoms. Case VI., however, has been affected but for two years; still he presented in addition to the pains and other symptoms a well-marked tendon-reflex.

It would seem, therefore, as if the absence of the patellar tendon-reflex were not so valuable a diagnostic sign as it has been said to be in the disease under consideration, but there can be no doubt of the fact that when its absence is coupled with the so-called "lightning pains," plantar anæsthesia, and dimness of vision, there is reason for apprehension.

AN ANALYSIS OF EIGHT CASES OF LOCOMOTOR ATAXIA AT PRESENT AT THE HOSPITAL FOR EPILEPTICS AND PARALYTICS, NEW YORK CITY.

No.	Sex.	Age.	Duration.	Probable Cause.	Ataxic Members.	Location and Character of Pain.	Tendon-Reflex.	Disturbance of Surface Sensation.	Ocular Symptoms.	Cerebral Symptoms.
1	M.	45	8 years.	Syphilis and exposure.	Legs.	Back and thighs.	Absent.	Anæsthesia.	None.	Vertigo.
2	M.	53	12 "	Unknown.	Legs and arms.	Arms, legs, viscera.	"	"	None.	None.
3	M.	54	14 "	Excessive venery.	" " "	Legs.	"	"	Atrophy of optic nerve.	"
4	F.	52	20 "	Unknown.	" " "	Back, legs.	"	"	Atrophy of optic nerve.	Vertigo and epilepsy.
5	M.	59	14 "	"	Legs.	" "	Increased to marked degree.	Most in lower extremity.	Atrophy of optic nerve.	Occasional epileptic attacks.
6	M.	57	2 "	"	Legs and arms.	Legs.	Well marked.	Anæsthesia.	Normal.	None.
7	M.	40	4 "	"	" " "	Legs.	Increased.	"	Impaired vision.	Frontal headache (a coincidence ?).
8	M.	59	17 "	Intemperance.	" " "	Legs.	Increased.	"	Dimness of vision due to atrophy of disks.	None.

As to the pathological condition which explains the occurrence of the tendon-reflex in some cases, and its absence in others, we must necessarily be very much in the dark. Such variation must depend, of course, upon the location of the affected regions of the posterior columns. It is quite possible that one of the three kinds of fibres described by Clarke [1] is affected while the others remain intact, and from the fact attested by most observers, that the *funiculi cuneati* are primarily attacked, it seems reasonable to suppose that the horizontal fibres, which probably eventually end in the gray matter of the posterior horns, are those impaired in cases in which the "tendon-reflex" has been extinguished. Pierret [2] has made autopsies in patients who had died before the disease had advanced far into the first stage, and his investigations prove that the external portion of the posterior columns are primarily affected, and not the columns of Gall. The exemption of these parts, or the affection of the extreme posterior portion of the lateral columns, might account for the presence of a normal or even an exaggerated tendon-reflex, but we cannot say, with all the clinical features, that the disease has not been locomotor ataxia in the various exceptional cases brought forward, and these are certainly a goodly number.

2 East Thirty-Third Street, New York, *December* 12, 1878.

A CASE OF GENERAL CANCER INCLUDING THE SUPRA-RENAL CAPSULES, WITH SYMPTOMS OF ADDISON'S DISEASE.[3]

BY ROBERT T. EDES, M. D.

Mr. G., aged thirty-three, was healthy from boyhood, though not specially robust, and of extremely regular habits. In January last, as it now appears from the recollections of his family and his own statements, he was somewhat less inclined to active exertion than usual, but up to the time of his departure for England in June no one suspected anything more than some depression from constant application to business. His brother-in-law thinks that before his departure he noticed some change in his complexion. When in England he had pain in his back on standing or walking, so that he walked stiff, but nevertheless went on foot some miles per diem. In August he had a severe attack of neuralgic pain in the back, which led him for the first time to consult a physician, Dr. Heslop, of Birmingham, who made a diagnosis of Addison's disease, and prescribed phosphorus with a bitter tonic and a liniment for the relief of the pain. It was felt at this time that it was doubtful if the patient lived to reach home, but the voyage was made with no seasickness and no special discomfort. From this attack the patient dated his severe illness, and the history of previous failure of health was obtained only by questioning.

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[1] British Medical Journal, July to December, 1869.

[2] Archives de Physiologie, 1872, page 364; 1873, page 74. Quoted by Charcot, 1 fasc. 2 series, 1873, page 9.

[3] Reported to the Boston Society for Medical Improvement.

On his arrival here he was seen by Dr. Flint, of Roxbury, who concurred in the extremely unfavorable prognosis which had been given, but made no change in the treatment. I saw him on August 28th, two days after landing. His only symptoms were extreme weakness, pain in the back on standing, and emaciation. He insisted on being up and dressed, and coming to the table for his meals. At this time he went up-stairs alone, though slowly. His appetite was, as he himself said, good, but not so according to the views of the rest of the family. Nothing, however, seemed to cause any dyspeptic symptoms. He had slight nausea but two or three times during the whole sickness. The bowels were regular. At this time I noted that there was no discoloration of the skin except sunburn on the face and hands, a statement which a conversation with his brother-in-law, who had been with him during his stay abroad, convinced me was erroneous. There was a dark-brown streak across the face below the eyes and over the cheek bones. The backs of the hands were also quite dark. The skin of the body was dry and harsh, but I could find no bronzing upon the body, nor the brown patches upon the lips which have been noted in other cases, and which I have once seen myself. Afterwards I found two streaks over the posterior edges of the ilia. The pulse was 104 to 108, regular. The heart's dullness was not enlarged, nor that of the liver or spleen.

The urine examined on the next day was light yellow, of specific gravity 1012, and contained no albumen. A slight flocculent matter floated near the top. It contained a small number of casts of two kinds: one very faint, with a few faint granules and rounded ends; others, more solid and better defined, contained nuclei or leucocytes. There were also strings of mucus and club-shaped masses or casts, as well as leucocytes. Dr. Wood reported a later specimen as containing no excess of indican. The blood was found to present no abnormal proportion of white corpuscles.

It is not worth while to detail the treatment, except to say that he was slightly nauseated by Fowler's solution, which was given up, and that he took small doses of morphia at night to relieve restlessness and cough, which troubled him especially when lying upon his left side. Cod-liver oil was taken until a day or two before death.

A few days after these notes were made he was seen by Dr. Minot, who verified the facts and concurred in the diagnosis. From this time the strength failed rapidly, and emaciation progressed. The discoloration became somewhat deeper. The pulse was in the neighborhood of

120, very weak. For several days before death the abdomen was much enlarged, tense, and resonant, giving rise for the last two or three days to considerable distress.

September 24th. He had become rapidly weaker, the abdomen was much distended, and there was distress in the left side when anything was taken to eat. A subcutaneous injection of morphia relieved this pain for some time. Between eight and nine P. M. he began to cough and raise dark, brownish material, and while doing this died.

Autopsy. At the autopsy a patch of brown color on the side above the ilium was noticed in addition to those spoken of. The body was much emaciated, abdomen tense; its cavity contained perhaps a gallon of serum. The intestines were distended with gas.

On dissecting off the skin from the sternum two nodules were found at its left border, causing elevations of skin, one of which had been noticed two or three days before. In character they corresponded to the growths within.

The abdominal cavity was almost everywhere crowded with masses of pearly-white nodules attached to the peritonæum. They varied in size from a pin's head to a horse-chestnut, and in places — the diaphragmatic surface, for instance — formed a sheet of new tissue.

The omentum was a complete mass of them. On the surface of the intestines they were fewer in comparison, but still quite numerous. The glands along the aorta were transformed into a cancerous mass. In the liver were a considerable number of nodules at various depths, and in the spleen none. One nodule of apparently the same character was seen on the inner surface of the stomach, but the mucous membrane above it was intact.

Both the supra-renal capsules were converted into firm, whitish, nodulated masses, retaining some trace of the general shape of the organs, but nothing like the original structure, with the exception of a few very small spots upon the surface, of a reddish-brown color, but a softened consistence. The kidneys also contained cancerous nodules, a portion of the lower end of the right kidney being disorganized and softened.

In the thorax the pleura, both costal and pulmonary, was studded with nodules of the same character, which were also present in considerable numbers in the lungs. The heart contained them, at the point of the left ventricle, at several places on the auricles, in the interauricular septum, and even on the trabeculæ of both ventricles.

The splanchnic nerves, together with the semilunar ganglia and branches therefrom toward the supra-renal capsules, presented no alterations obvious to the naked eye, except that the ganglia were thicker than sometimes seen. Sections from one of the ganglia hardened in chromic acid were compared with several other specimens, one from a case presumably healthy, another from a case of contracting kidney, and another from a case of sarcoma of the kidney involving the neighboring structures, including the semilunar ganglia. No well-marked distinction could be made between the sections from the present case and those which were supposed to present no pathological changes. There was no decided increase of the connective tissue, nor even an increased pigmentation of the cells. Some of the cells appeared smaller and more shrunken than in the two first-mentioned specimens, but the change was probably no more than could be accounted for by a longer sojourn in chromic acid, or even an accidental peculiarity.

This case derives a special interest from the bearing which it has on certain theories and statements set forth in Dr. Greenhow's recent work on Addison's disease, the most complete monograph on the subject which has been written. He says: —

"Were this the only misconception with respect to the relation between supra-renal disease and discoloration of the skin, I might here close my review of this part of the subject; but unfortunately a small number of misunderstood cases have given a certain degree of prevalence to another quite opposite misconception, namely, that any disease of the supra-renal capsules, involving destruction of their tissues, will produce the same effects as the particular lesion characteristic of Addison's disease."

He has found nine cases of cancer, or so-called cancer, of the capsules with discoloration of the skin, four of these having been published by Addison himself in his monograph. He proceeds to show that in six of these cases the discoloration was not characteristic of Addison's disease, and in none of them were any constitutional symptoms present but such as were due to the disease existing in other organs. The cancerous disease in the capsules was secondary to cancer of other important organs.

In the three remaining cases the constitutional symptoms and bronzing were present in a typical form, but in these the disease of the capsules was not cancer. Two of these, although denominated by their authors cancer of the supra-renal capsules, were at the same time regarded by them as true examples of Addison's disease. The third case also, Dr. Greenhow thinks, presents on the whole a greater resemblance to the lesion in Addison's disease than to cancer. In the next lecture he further states, "In my last lecture I think it was clearly shown that when the normal structure of the supra-renal capsules is altogether supplanted by cancer, or has undergone complete fatty degeneration, none of the peculiar symptoms of Addison's disease are produced, notwithstanding the total destruction of the organs for functional purposes."

It seems to me that the present case cannot be disposed of like any of these. In the first place, as to the symptoms, we have the well-marked and progressive weakness, out of proportion to the emaciation, and not to be accounted for by the existence of general cancer, which had given rise as yet to no other symptoms; the rapid and feeble action of the heart; the discoloration, which I think I do not err in calling characteristic. It was situated on the parts of the body most exposed to the air, that is, the upper part of the face and the backs of the hands, contrasting most markedly with the paleness of the chin and arms; and also at one or two points upon the back exposed to pressure, These parts were of a uniform brown color, which, although at first looking like sunburn, deepened instead of growing lighter, after progress of the disease and cessation of exposure. One person who saw the patient while sitting out-doors said that he looked almost like a mulatto.

His family are perfectly clear not only as to the existence of the discoloration toward the last, but as to its presence before his voyage.

Finally, the diagnosis of Addison's disease was made by the physician who first saw him in England, and confirmed, though perhaps not altogether without reference to the former opinion, by those who saw him here.

There are two points in which the symptoms in this case differ from the more typical cases of Addison's disease. The first is the want of the more prominent symptoms on the part of the digestive organs, such as constant nausea and vomiting, although loss of appetite was noted for some weeks before death, and there had been once or twice some nausea. These symptoms, however, in many cases make their appearance only a short time before death. The second is the emaciation, which was great. This, although unusual, is not sufficiently so to destroy the close resemblance between the present and the typical cases.

In the second place, as to the nature of the disease; the general diffusion of the morbid growth, being found all over the peritonæum, pleura, pericardium, endocardium, lungs, liver, kidneys, and supra-renal capsules, is hardly consistent with anything but some form of cancer, if not carcinoma in the narrower histological sense, at least clinical cancer; but we have in addition the microscopic evidence which makes it cancer even in the stricter sense.

For its origin I think we have a right to look to the capsules themselves, as they were, notwithstanding the extensive diffusion of the disease, the only organs *completely* disorganized, in the others, lungs, liver, and kidneys, the normal structure being largely in excess of the diseased.

Having now before us a case which presents distinctly the clinical aspect of Addison's disease, and which is no less clearly connected with cancer of the supra-renal capsules, I think we have a right to say, even if in contradiction to Dr. Greenhow, that diseases of these organs, other than that cheesy or scrofulous or inflammatory degeneration of the capsules characteristic of Addison's disease, may sometimes, even if rarely,[1] give rise to similar symptoms, — a view which is by no means inconsistent with the theory generally held, that the symptoms do not arise from the loss of function of the capsules, but from an irritation of the abdominal nerves set up by a slow inflammatory, or, as we should say, from any irritative process, in these organs so closely connected therewith.

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[1] See Ziemssen's Cyclopædia, Am. Trans., vol. viii., page 653.

RECENT PROGRESS IN SYPHILOLOGY.

BY EDWARD WIGGLESWORTH, M. D.

Transmission of Syphilis by the Mouth. — Zeissl adds[1] to the case recorded in this journal February 28, 1878, three others: —

I. A man applied for treatment for an ulcerating initial-sclerosis, about as large as a nickel cent, upon his chin, stating that his sweetheart had bitten him upon that spot during the act of cohabitation. Neither ulcer nor papule existed elsewhere upon the body. A well-marked maculo-papular syphiloderm soon appeared and ran its usual course.

II. A nurse, after being kissed upon the right cheek, noticed that the spot hardened to a large initial-sclerosis partially ulcerated. After the usual period of incubation, submaxillary adenitis occurred, followed in due time by the appearance of syphiloderma erythematosum et papulosum.

III. A Bohemian girl, aged seventeen years, was admitted into the ward for syphilitic women, December 6, 1877. In spite of an excessive development of peri-follicular and papular infiltration in the genito-crural folds, the inguinal and femoral lymph glands were not enlarged. On the right breast, about one and one half c. m. inwards and upwards from the nipple, was an irregularly shaped, ulcerating, syphilitic initial-sclerosis, the size of a silver quarter dollar, and in the right axilla an unusually large bubo with excessive hyperplasia. The girl, who was quite artless, stated that her lover had seized her with the teeth at this spot during cohabitation, and had sucked there strongly for a long time. A general erythema with pharyngitis and adenitis of the neck was also present. Zeissl refers too to a case, not observed by himself, quoted some ten years since in the *Medical Times and Gazette*, which stated that a policeman was bitten in the finger while arresting a criminal, and that the spot after due time showed an initial-sclerosis followed by the usual symptoms of syphilitic infection.

Syphilis communicated by the Saliva. — Dr. Böttger, of Dessau, reports[2] the case of a girl of nine years, apparently healthy, except for nocturnal headache and pain in the eyes. Photophobia, amblyopia, and iritis with adhesions existed in both eyes. The parents were healthy. The child had been reared upon cow's milk. The child's nurse still lived in the neighborhood, and was visited. The sunken bridge of the nose confirmed suspicions, and she confessed to an appearance of syphilitic manifestations after coition in her maidenhood with a strange man. The disease had been recognized at the time, and yielded to treatment appropriate to syphilis. She admitted having frequently chewed food before administering it to the child, a practice not uncommon with mothers and nurses. The child was submitted to anti-syphilitic treatment, and the iritis by degrees disappeared, leaving the pupils normal in form; the hard palate, however, became perforated, requiring a false palate. No other appearances of syphilis were ever detected in the child, who subsequently continued to all appearances in vigorous health.

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[1] Separat-Abdruck aus der Allg. Wien. med. Zeitung, Nos. 2, 3, 4, 1878.

[2] Memorabilien, 2 Heft, 1878; Allg. med. Central-Zeitung, April 17, 1878.

In an article upon extra-genital chancres Dr. Josias gives[1] a similar observation, with the ætiology, incubation, and cicatrization of the lesion. In Philadelphia a vagabond was recently arrested for communicating syphilis to a large number of workingmen.[2] He pretended to make a living by performing the operation of tattooing, and, as the needles needed moistening from time to time, he had been in the habit of inserting them into his mouth, which was full of syphilitic ulcerations. It is to be regretted, in view of the scientific interest of this case, that the accounts of it are so brief and meagre.

Ignored Syphilis. — Under this title Fournier considers[3] cases denied in good faith by patients, and "not proven" by the physician, which yet yield speedily to specific treatment, and that alone. Such cases are not rare. In fact the dermatologist no longer regards the negation of the patient as an argument. Objective symptoms alone can be considered. A test examination was made at L'Hôpital St. Louis. For five months a list was kept, and of the manifest cases of tertiary syphilis received twenty-eight patients were actually in ignorance of the existence of the disease. This is especially the case among the lower classes, untaught by lectures, conversation, and newspaper advertisements, and paying less heed to general hygiene and personal cleanliness. The workman, thinking of his daily bread, is less upon the watch, and lacks time and money to make an immediate application to the physician. Most frequently of all, women are the sufferers, on account of the culpable negligence on the part of their natural instructors. How many worthy wives and mothers live in blissful unconsciousness of the very existence of this deadly malady! This very prescience causes them to slight the enemy when they are attacked. Of the twenty-eight cases referred to above, twenty-two were of women.

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[1] Le Progrès méd., No. 11, 1877.

[2] Lyon Médicale, No. 18, and Le Progrès médicale, No. 24, 1878.

[3] Gaz. des Hôpitaux, August 8, 1878.

The crass ignorance of that class which busies itself about a speculative future rather than an actual present is an important cause of the non-recognition of the presence of syphilis. For this class the idea of syphilis is inseparably connected with that of sexual commerce with an infected individual, and is considered as clear proof of chronic debauchery. Of a non-venereal origin persons of this class have no suspicion. The initial lesion occurring elsewhere than upon the genitals is attributed to some other cause, and the disease is allowed to run its terrible course. These cases are common, for there are many causes. For example, contact with infected children by nursing, with any infected individual by kissing, or with his pipe, a spoon, a goblet, or any other article of household furniture; professional contagion at the hands of midwives, or by physicians, or by surgical instruments in operations; "kissing the book" upon the witness stand; vaccination with human virus, and many other means for the diffusion of the poison, spread the disease. Physicians and midwives remain, not infrequently, in ignorance that they themselves have been infected; how much more their patients! The initial lesion may be slight, or may be upon the neck of the uterus. The buboes are indolent, and often attract no attention. Early cutaneous syphilodermata cause neither pain nor itching. A roseola is usually referred to other sources, or overlooked by the patient, and must often be first pointed out by the physician. Affections of the throat are rarely regarded. Alopecia due to syphilis is often slight and temporary, and excites no suspicion. The headaches are "migraine or neuralgia;" articular pain is infallibly attributed to "rheumatism;" anal plaques muqueuses are taken for "hæmorrhoids;" and an iritis is due to "taking cold." Ten or fifteen years later serious lesions establish the diagnosis beyond a doubt. Again, the husband, wife, or lover has "perfect confidence" in his or her partner. The latter implores the physician, in the name of "domestic happiness, conjugal peace," etc., to keep the secret. In the name of the most respectable interests the physician becomes an accomplice, and treats the patient, disguising the fact under pseudonyms honest and correct in themselves, until in the midst of this veritable conspiracy of silence the patient becomes cured. The practical conclusion is, therefore, that it is our duty to disregard, in accordance with the daily experience of the clinic, the falsehood, recklessness, or ignorance of the patient; to make frequent and scrupulously careful examinations; to be guided by objective symptoms; and to bear in mind Ricord's saying that "the science of the physician is superior to the assertions of the patient."

Syphilis and Marriage. — Fournier can adduce fifty-one cases where men who have had syphilis have been married, have never infected their wives, and have engendered ninety-two healthy children. He considers [1] that under certain conditions such patients may be allowed to marry. A syphilitic man is dangerous to his wife, his children, and to his fellow-citizens. The wife may be poisoned by direct contact, or possibly through the semen. Children may be directly diseased, or by inheritance. Late manifestations of the malady may prove fatal to the man himself, his wife and children coming then upon the charity of his fellow-townsmen.

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[1] Jour. de méd. et de Chir. Prat. Juillet., Schmidt's Jahrb. No. xii., 1877.

Nevertheless, Fournier would allow marriage when the syphilis is light, and when proper treatment has been continued for three years, during which time there has been no relapse, nor appearance of the disease even under treatment by sulphur baths. It must be remembered that where a patient is not under observation a relapse may occur, but be disregarded from its being unattended by pain. The older the disease, the less communicable it is.

If the physician is not consulted until after marriage, the patient must be informed of the above facts and at once energetically treated as a *pis aller,* being also warned how readily the disease may be imparted by kisses, or the use in common of tumblers, pipes, vessels, etc., and being forbidden to procreate prior to recovery. Some men will require to be frightened; others would by this means be driven into a fatal melancholy. If the wife is pregnant after an abortion, she is to be treated although apparently uninfected. If pregnant and affected, treatment may at times save a healthy child. In any case the child, whether healthy or diseased, is to be suckled only by its mother, be she diseased or healthy.

(*To be concluded.*)

MASSACHUSETTS MEDICAL BENEVOLENT SOCIETY.

For the benefit of those who are unacquainted with the disinterested and charitable work which this society, with its modest resources, is unostentatiously performing from year to year, it may be well to state that the object for which it exists is to furnish aid, under proper and guarded restrictions, for the relief of any needy members of the medical profession who are or have been inhabitants of the Commonwealth of Massachusetts, their widows and minor children. It is a matter worthy of note that of the present twelve beneficiaries not one belongs to the family of or was ever himself a member of the society. The entire income, too, can be said to be devoted to this purpose, the incidental expenses for the last year being only three dollars.

These remarks have been suggested by the recent occurrence of the annual meeting of the society, which took place at the house of Dr. H. W. Williams, 15 Arlington Street, Thursday evening, October 31, 1878. There were present some fifty members, including a goodly number from the suburbs and more distant parts of the State.

In the report of the treasurer, Dr. Francis Minot, the funds of the society, now amounting to $15,125, were shown to be safely and judiciously invested;

and the income therefrom, together with the annual assessments of the members, enables the society to assist twelve beneficiaries, each receiving sixty dollars annually in quarterly installments. The remainder of Dr. Morland's legacy of $3000, which is shortly to be paid in, will enable the society to add two or three more to the list of beneficiaries.

Dr. H. W. Williams was elected president in place of Dr. G. C. Shattuck; and, after alluding feelingly to the society's great indebtedness to the retiring president, offered the following resolution, which was unanimously adopted: —

Resolved, That the society returns its thanks to Dr. G. C. Shattuck for the valuable services rendered by him for so many years as its honored president and councilor, and would express its sincere regret that he feels compelled to decline reëlection.

After adjournment the society was invited to a social entertainment, which lasted until a late hour, and was much enjoyed by all.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY.[1]

October 9, 1878. *The Intravenous Injection of Milk.* — Dr. William Pepper read a paper on the intravenous injection of milk in the treatment of functional and organic anæmias, and gave an account of two cases in his hospital practice in which milk injections had been tried.

Case I. Female, aged thirty-three, admitted to the University Hospital in the spring of 1878, suffering from extreme anæmia and spinal irritability, which had been induced by a series of depressing causes, — miscarriages, hæmorrhages, mental strains, and nervous shocks, the latter requiring a large amount of morphia for their treatment. Other forms of treatment having been assiduously persevered in without any good effect, it was determined to inject milk into her veins. On June 20th Dr. Charles T. Hunter opened her right median basilic vein and injected five fluid ounces of fresh cow's milk, the cow being milked in an apartment adjacent to that in which the patient lay. The immediate results of the operation were striking. Almost as soon as the milk entered her veins the patient's face assumed a deep purplish color, her conjunctivæ became injected, and she clutched at her throat. These symptoms disappeared, however, upon lowering the funnel and allowing the milk to flow more slowly. In a few minutes a very marked capillary injection appeared in the palms of her hands, her face, and the back of her neck. At the same time two attacks of urticaria came on at intervals of eight minutes, and were gone in five minutes after the first appearance of the rash. Half an hour after the operation a chill supervened, lasting fifteen minutes. Before the operation the pulse was 108. After the milk was injected it ran up to 150, being 128 when the urticaria appeared. Two hours and a half after the injection the temperature ran suddenly up to 103° F., and then fell again. The patient passed a comfortable night.

June 25th. No marked improvement.

June 27th. The patient was again operated upon, the same quantity of milk being injected. Previous to the operation twenty grains of quinia were given. [This same amount of quinia had been administered previous to the first operation.] No sooner had a fluid drachm of milk entered the circulation than great capillary congestion followed, and the patient complained of bursting pain in her head. A severe attack of cramp seized her, and in the course of fifteen minutes her menses appeared. Again two attacks of urticaria supervened.

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[1] Reported for the Journal.

June 29th. The patient was considerably stronger.

July 17th. Milk to the amount of six fluid ounces was again injected. The injection was followed by the same symptoms. From that date the patient's condition steadily improved. She gained in color, and her nervous phenomena disappeared.

CASE II. A sailor, aged thirty-three, was admitted to the University Hospital on May 6th with Addison's disease. The proportion of the red blood globules was found to have been reduced 75 per cent. His face was very sallow.

June 15th. Six fluid ounces of milk were thrown into his left median basilic vein by Dr. Hunter. The patient at once complained of bursting pain in his head. Before the operation the temperature was 99$\frac{2}{5}$° F., and the pulse 104. After the operation the pulse first fell, and then rose to 116, and the temperature fell. Forty minutes later a severe chill supervened. Three hours and a quarter after the operation the temperature was 103° F., and nine hours after it was 100$\frac{2}{5}$° F. The night was passed comfortably, and the next morning the patient felt stronger.

June 22d. The operation was repeated, the milk being injected more slowly. The pulse fell; the temperature remained steady. A large quantity of albumen appeared in the urine.

June 27th. The operation was again repeated, the man being very low, and within a short time afterwards the patient had passed ten pints of urine. Death followed very shortly. The post-mortem examination revealed the lungs adherent, the supra-renal capsules sacculated, and the marrow of the long bones presenting the characteristic appearances of medullary anæmatosis.

Dr. Pepper drew the following conclusions with regard to the intravenous injection of milk: (1.) The milk should be fresh, and maintained at a temperature of 100° F. (2.) Not more than six fluid ounces should be injected at a time. (3.) The subsequent symptoms are as severe as those following the transfusion of blood. (4.) There is no danger of embolism. (5.) Albuminuria is very likely to follow. (6.) The milk produces immediately a stimulating effect. (7.) It does not produce as lasting effects as blood introduced into the veins. (8.) It may hasten the fatal result in organic anæmias (vide Case II.).

Concerning the transfusion of blood, Dr. Pepper was led to remark (1) that blood should not be used except when the transfusion was dextrously performed and the blood carefully defibrinated. (2.) That not more than seven fluid ounces should be transfused at a time. (3.) That dangerous nervous and vascular symptoms were almost sure to follow. (4.) That the force of such symptoms might be moderated by large doses of quinia given before the operation. (5.) That albuminuria might follow the transfusion of blood. (6.) That the transfusion of blood stimulated the circulation and nutrition strongly for a short time. (7.) That blood transfusion might be employed for the temporary relief of functional diseases, so as to gain time for the use of other remedies. (8.) That in serious organic disease the transfusion of blood was of no value, the risks of transfusion being great where the lungs and heart were weak.

Dr. Hunter, being questioned as to the operation, replied that he made an incision half an inch long over the course of the vein, dissected out the vessel, raised it on a grooved director, and then plunged the canula directly into it. He did not think it necessary to tie the canula *in situ*, as it was sufficiently constricted by the walls of the vein.

Dr. Henry H. Smith wished to ask why it was not possible to puncture the vein through the skin, and so get the canula into it without making an incision.

Dr. Hunter replied that it was almost impossible to enter the vein in that way. On one occasion he had made seven punctures of the skin before entering the vein, and in another instance the canula had passed right through the vein. The incision, if made quickly, gave but little or no pain.

Dr. Benjamin Lee asked the size of the canula used.

Dr. Hunter answered that his canula was from one eighteenth to one twelfth of an inch in diameter, smaller, in fact, than the cephalic vein itself; that it was silver plated, provided with a stop-cock, and connected with the glass funnel by a tube twenty-four inches long and one sixth of an inch in diameter. Mentioning quite a celebrated case of milk transfusion which occurred lately in his practice in this city, he said that following the first injection of five and a half fluid ounces of goat's milk there was most decided improvement. Before the injection the veins were collapsed and the patient unconscious, while after the operation the veins filled out and the patient was conscious and intelligent. That the patient improved steadily after the second injection, and was only carried off finally by a draining hæmorrhage from the bowels because milk could not be obtained until entirely too late. The speaker also called attention to the case of milk transfusion reported last May by Dr. Bullard, of the Demilt Dispensary, New York, in which an injection of eight and a half ounces of milk was followed by an abscess.

Dr. Henry H. Smith asked whether it was not possible that the effects of the milk were due simply to the presence of a stimulating liquid in the blood, instancing the old-fashioned injection of salt and water in cholera.

Dr. Pepper replied that it was impossible to answer the question in the present imperfect state of our knowledge of the subject; that he had no doubt that in certain cases the injections merely served to tide the system over a state of depression.

Dr. Frederick P. Henry did not at all agree with Dr. Pepper in his division of anæmias into functional and organic. He thought that all anæmias, since they were changes in the structure of the blood, were structural, that is, organic. He thought he explained the presence of albumen in the urine after the injection of milk and the transfusion of blood when he called the attention of the society to the fact that albuminuria always follows the ingestion of large quantities of the white of egg.

Dr. Smith had always thought that the respiratory troubles following milk injection were due to the formation of casein in the arteries. He wished to call the attention of the society to the paper published by Dr. T. Gaillard Thomas, of New York, in which the attempt had been made to trace the points of similarity between milk and chyle.

Dr. James Wilson remembered to have seen, in one of Ponfick's lectures, the statement that in diseases in which the hæmoglobin of the blood was destroyed these same symptoms of respiratory disturbance were present.

Dr. Guitéras desired to say that when the hæmoglobin of the blood was being destroyed there was always a condition of jaundice present, which was never present after the injection of milk. He thought the dyspnœa entirely mechanical.

Dr. Hunter, in closing, was led to say that he did not consider it safe to cleanse the injection apparatus with carbolic acid, as was recommended by some writers. Furthermore, he always thought it necessary to strain the milk before injecting it, and said that upon several occasions after straining the milk he had found epithelial cells and hair in the strainer, which had evidently been rubbed off the udders of the animal from which the milk had been taken, and which would be amply sufficient to cause fatal embolism if any of them were allowed to find their way into the arterioles of the brain.

BUCKNILL ON HABITUAL DRUNKENNESS.[1]

This book is a republication of speeches and letters relating to habitual drunkenness, and the cure or reform of habitual drunkards. The contents are in part the outcome of Dr. Bucknill's recent visits to American inebriate asylums, and in part of the late efforts to induce Parliament to authorize the commitment of habitual drunkards to inebriate asylums in Great Britain. The American Association for the Cure of Inebriates has formally declared that "intemperance is a disease," and the advocates of the bill in Parliament have claimed that "when fully developed, habitual drunkenness is no longer a vice but a disease." This question Dr. Bucknill discusses with his usual force and clearness. He thinks the supporters of the bill make a great mistake in refusing to recognize that there are two distinct kinds of drunkards, the habitual and the insane, who must be dealt with by different methods: the one by moral, the other by medical treatment. The proportion of the latter class is, he thinks very small. It is the difficulty of making this distinction that leads those interested in the care of inebriates to regard all habitual drunkards as insane, and courts and legislative committees, on the other hand, to class them all as vicious persons, needing restraint and punishment.

Some of Dr. Bucknill's remarks in his speech at Rugby led Dr. Clouston to think he did not fairly represent the views of the medical profession when he said they were all considering intemperance as a disease in itself, instead of as a cause of disease. We hope no one will suppose that the medical profession in this country puts faith in this dogma, or in the claim of inebriate-asylum superintendents that they permanently cure thirty-four per cent. of their cases. In habitual drunkenness we have a vice, sometimes passing into a disease, and no doubt much confusion exists as to where the line should be drawn. Sometimes, however, we find mental disease leading to or manifested by vicious habits. Any form of insanity which diminishes self-control or debases the moral tone may lead to any kind of vice or crime. Disease may destroy the inhibitory power of the higher over the lower cerebral centres, giving rise to irregular manifestations of passion and depraved appetite, which constitute the chief outward symptoms of the mental disorder. It requires special skill and experience in the study of insanity to discriminate between vice and disease in such cases.

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[1] *Habitual Drunkenness and Insane Drunkards.* By John Charles Bucknill, M. D., F. R. S., etc. London: Macmillan & Co. 1878. 12mo, pp. 103.

It is easy to distinguish, in most cases, the various forms of insanity due to the atrophic changes of chronic alcoholism, but the trouble begins when we consider those in which periodical drunkenness is the prominent and, to unskilled observers, the only symptom. Dipsomania was formerly restricted to those rare cases in which the drunken fit was due to a sort of moral monomania, like kleptomania, for instance, and Dr. Bucknill seems inclined still so to restrict it. We are disposed to believe that there is a form of dipsomania in which an obscure acquired organic necessity is responsible for the attacks. In either form some evidence, however slight, should exist beyond the mere fact of habitual drunkenness. There is no safety in the argument that a man steals or drinks because he is insane, and is insane because he steals or drinks.

Dr. Bucknill makes the following distinction from the physiological point of view between vice and disease. He says, "Vice is a habit of the nervous centres of energizing in an emotional direction, mischievous to the well-being of the individual and of the community, but consistent with healthy nutrition, and not necessarily tending to destroy or diminish the vital activities of the individual. Disease is a condition of some one or more parts of the organism, inherited or acquired, which always involves and implies an abnormal state of the nutrition of those parts, and does necessarily tend, if prolonged or increased, to diminish or destroy the vital activities of the organism." Drunkenness as a disease is, he thinks, to be distinguished by its hereditary character, its periodicity, and various indications of mental infirmity, eccentric opinions, and dissolute conduct. He agrees with Dr. Clouston that insane drunkards are usually "facile, sensual, irresolute liars, devoid of the rudiments of conscience, self-control, or true affection." He thinks with Dr. Skae that "if you can watch these cases for some time you will see short outbreaks of mania not due to drink." We would add that in some cases a distinct but very short period of depression, restlessness, or sleeplessness *precedes* the indulgence in drink, but is soon lost in the excitant or toxic alcoholic symptoms.

It is agreed by all specialists in lunacy that these cases are very hard to cure. The Scotch commissioners in lunacy, who have special opportunities for observing, say it would be difficult to point to a single case of permanent recovery. Dr. Bucknill thinks insane drunkards can be dealt with under the existing lunacy laws. It is our experience that courts are very chary in committing dipsomaniacs, and will not countenance their detention in hospitals for the insane during the intervals of sobriety. Although they constitute a most dangerous class of lunatics, it is not safe to certify to their lunacy, as the evidences of it are obscure, and likely to be misinterpreted in court. A special form of commitment is certainly desirable to protect physicians and relatives from suits in revenge, and to enable superintendents of asylums to hold insane drunkards for longer periods than is now possible. If enough of this class were to be found within a convenient territory a special hospital might properly be established, with facilities for constant and varied employment. The existing inebriate asylums on the voluntary plan should content themselves with efforts at reform. The great mass of vicious drunkards should be dealt with after methods such as were suggested in the report of the recent city commission, of which the late Dr. Tyler was a member, and in which long sentences and forced labor were recommended. T. W. F.

TYSON ON THE URINE.[1]

We have already given an opinion on the high character of this little book. It is the best of the kind we have seen, and is particularly well adapted for students' use. As is usual in such cases the first edition has been rapidly exhausted, and the new one which takes its place has been carefully revised; and although additions have been made, care has been taken not to increase its bulk. It is prepared in the publishers' best style.

ZIEMSSEN'S CYCLOPÆDIA.[2]

This volume carries on the study of diseases of the chylopoetic system from the point at which it was left some two years ago by Volume VII. All the contributors have, we believe, appeared already, and the book in plan and execution is just like the others. It opens with an exhaustive treatise on the œsophagus, by Zenker and Von Ziemssen, which occupies over two hundred pages. Diverticula, whether resulting from pressure or traction, receive considerable attention, and this subject is illustrated by several cuts. It may be a matter of taste, but we can see no special advantage in speaking of "spastic" instead of spasmodic stenosis. This article is followed by one by Bauer on diseases of the peritonæum, including typhlitis and perityphlitis. The author concludes this section as follows: "The maxim of many physicians — if possible, to allow the opening to occur spontaneously — is a good one, but it is possible that gradually, by means of improved antiseptic treatment, this precept may come to be reversed." The spleen, pancreas, and suprarenal capsules are successively considered. We have taken much interest in the introductory chapter of the section on the supra-renal capsules, in which the relation of discoloration of the skin with disease of these organs is considered, and we quite agree with the author (Merkel) "that the probability of a relation of cause and effect becomes almost a certainty." The volume concludes with chapters on diseases of the bladder, urethra, and of the male generative organs.

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[1] *A Guide to the Practical Examination of the Urine.* By James Tyson, M. D. Second Edition, revised and improved, with Illustrations. Philadelphia: Lindsay and Blakiston. 1878.

[2] *Cyclopædia of the Practice of Medicine.* Vol. VIII. Diseases of the Chylopoetic System, with chapters on the Diseases of the Bladder and Urethra, and Functional Affections of the Male Genital Organs. New York: Wm. Wood & Co. 1878.

INFANT MORTALITY IN FRANCE AND ENGLAND.

The *Medical Times and Gazette* for November 2d publishes a very interesting letter from Paris devoted to one of the six subjects proposed for discussion at the International Congress on Hygiene, namely, infant mortality in France. Many eminent men from various countries took part in the debate. Immense interest in this subject is felt by educated men of all kinds in France. In England the birth-rate is much higher than the death-rate; but few are interested in the matter, although economists are alarmed at the rapid increase of population. In France the state of things is very different. The birth-rate instead of being 40 per 1000 per annum, as in England, is only 26 per 1000, or little if at all above the average death-rate, so that the population has begun to decrease. France is by no means overpopulated. She could with ease support several millions more than her present population. Germany, her great rival, already outnumbers her; hence the population question has become one of pressing importance. Leading men in all professions are earnestly investigating the subject.

The high rate of infant mortality in France is no new thing, nor can decrease in population be traced wholly to it, but thinking men have been roused to the necessity of combating this abnormal state of things by every means. M. Bertillon, the great authority on statistics, asserts that the infant death-rate of all classes in the first year is 200 per 1000; of these only 76 per 1000 belong to the upper and middle classes. It is evident, then, that 124 per 1000 are sacrificed for want of proper care. In large towns the mortality is enormous; in Paris 30,000 out of 54,000, or more than half the children, die annually during their first year. Illegitimate children, of course, die in larger numbers than legitimate, the proportion being 31 : 16. The proportion of still-born children of illegitimate birth is as 76 : 40. Of legitimate children 206 per 1000, or 21 per cent., die in their first year. Of illegitimate children, 390 per 1000, or 40 per cent., to which should be added a very large number of concealed abortions and infanticides. Seven per cent. of all births in France are illegitimate; hence unmarried women should be assisted in their trouble, for by French law the support of an illegitimate child is put upon the mother.

One cause of this great infant mortality is that among the poorer classes the health of the mother obliges her to bring up her children by hand; the same is the fate of illegitimate children.

A second cause, which is peculiar to France, arises from the fact that among the well-to-do classes a wet-nurse is almost invariably engaged to relieve the mothers of the burden of suckling their children. These wet-nurses are usually country peasants, married or unmarried, who go to Paris to find a situation, having found which, their own children are farmed out at establishments in the country. The death-rate among such unfortunate infants is very large.

It has been found that 20,000 children are annually sent from Paris into country districts. In the majority of cases they die within a few weeks.

A third cause of infant mortality in France is found in criminal abortions and infanticides. M. Bertillon estimates that there are over three thousand infanticides annually, of which not more than three hundred are reported to the authorities. Of the remainder, Bertillon believes one half are registered as still-born, and that the other half are allowed to die gradually by starvation. As regards frequency of criminal abortion, M. Marjolin, a great authority on foundling hospitals, says that out of ninety of his medical brethren whom he had questioned there was not one but had been solicited to perform abortion or had to treat its results. The majority of these operations are performed by midwives, a class which has an evil reputation.

Among minor causes of infant mortality may be mentioned the regulation obliging all children to be presented at the Mairie within three days after birth for registration. Exposure causes the death of many of them. Another bad regulation is the discharge of women from lying-in hospitals on the ninth day. The result is that in many cases the milk dries up, as an effect of hard work, to which the women at once return, and the children perish in large numbers.

The correspondent, however, claims that France is not much worse than her neighbors, her infant death-rate not being much in excess of that of England, while it is lower than that in many other countries, that of Prussia being 218, of Austria 259, of Bavaria 323, per 1000. The measures for staying the evil in France are to be mentioned in a future letter.

In the *British Medical Journal* of the same date is an editorial on infant mortality in England, in which Dr. Charles R. Drysdale is taken to task for making the assertion, at the congress in Paris, that the English national system for civil registration of births and deaths is so " absurdly inadequate " as to render utterly useless any calculations of infant mortality in England. The ground of this assertion is that in England six weeks are allowed for registration of births, and therefore " large numbers die that are not registered at all." According to the registrar-general's figures the rate of infant mortality is lower in England than in most other European states ; Dr. Drysdale therefore concludes that the rate is understated. The editorial denies all the statements made by Dr. Drysdale, and claims that English statistics are more trustworthy than those of France or Belgium ; that the English system of registration is superior to any other. It does not understand Drysdale's statement that " hosts of children have been counted as still-born that lived a day or two, perhaps a week, and these [as he thinks] were buried without certificate," —for still-born children are not registered in England. This is considered a defect in the system, but the *Journal* believes it saves English statistics from the well-known blunders of the French system, which records so large a proportion of live-born as still-born children. It thinks, too, that the Continental system of requiring registration in one to three days after birth would be a failure in England. Moreover, no body of a deceased child can willfully be buried as if still-born; nor can a still-born child be buried without a medical certificate. Infringement of either law is punished by a fine of ten pounds.

We would call the attention of our readers to both these articles, of which we have made an imperfect synopsis.

EXPERIMENTS WITH TRICHINÆ IN CHICAGO.

Dr. W. T. Belfield, demonstrator of physiology in Rush College, and H. F. Atwood, Esq., vice-president of the State Microscopical Society, have been engaged for several weeks past in the examination of pork for the presence of trichinæ. The examination was undertaken at the instance of the Department of Health of the city of Chicago. The specimens were procured by a health officer from the different packing-houses in the city, no establishment of the kind having been omitted in his visitations. The flesh of one hundred hogs was examined, and in eight trichinæ were found. The estimated number in each cubic inch of striated muscle of the infected hogs varied from thirty-five to thirteen thousand. Quite a number of experiments have been made by these investigators to test the rate of propagation of the trichina worm and its effects. Rats have been used chiefly for this study. They have found that a rat may be fed occasionally with small numbers of trichinæ without in any way disturbing its health. One animal weighing two ounces was fed with infected pork in small quantities every two or three days for six weeks. No impairment in the health of the rat resulted; it was then killed, and its body was found swarming with living trichinæ; the observers estimated that there were no less than one hundred thousand in the whole carcass. The inference drawn from these experiments has been that any animal or man may take live trichinæ in small numbers occasionally without injury; these gentlemen further believe that many more human beings than has been heretofore supposed are infected with trichinæ, — indeed, that a majority of us are carrying these worms about in our muscles. So sure have they felt of this fact that one of them — Dr. Belfield — ate twelve living trichinæ on November 20th. More than three weeks have passed, and not the slightest effect has been experienced. Another interesting result of this study is the discovery that a small portion of sulphurous acid dissolved in the brine in which hams are pickled will kill all the trichinæ. The per cent. of acid required has not been fully determined, but the amount is so small that it is no detriment to the meat for commercial purposes.

MEDICAL NOTES.

— F. Leypoldt, of New York, will publish in January the first number of the *Index Medicus*, compiled under the supervision of Dr. John S. Billings, surgeon United States Army, and Dr. Robert Fletcher, M. R. C. S., England. It will record the titles of all new publications in medicine, surgery, and the collateral branches received during the preceding month. These will be classed under subject headings, and will be followed by the titles of valuable original articles upon the same subject, found during the like period, in medical journals and transactions of medical societies. The periodicals thus indexed will comprise all current medical journals and transactions of value so far as they can be obtained. At the close of each yearly volume a double index of authors and subjects will be added, forming a complete bibliography of medicine for the preceding year.

This publication will supplement the admirable work now accomplished in the preparation of the Index Catalogue of the Library of the Surgeon-General's Office. The manuscript of this catalogue, which includes all books in the library, is ready for the press, and it is hoped that Congress may, during its next session, give authority to print it. It is to be hoped that the profession generally will support so public-spirited an undertaking as this monthly periodical.

— From the Annual Report of the Secretary of the Treasury we learn that the surgeon-general of the marine hospital service reports 18,223 sick and disabled seamen cared for during the year ended June 30, 1878, — the number exceeding by 1415 the largest number relieved in any previous year. As in the preceding year, there was again a small surplus of receipts over expenditures, as shown by the statement of the register of the treasury, the receipts covered into the treasury being $369,678.67; and the expenditures 365,292.90; leaving unexpended 4385.77. On the basis of expenditures as here stated, the average *per capita* cost of the relief furnished was $20.04, which is less by $4.18 than the lowest average cost for any previous year, and $18.37 less than the average for 1870. At the same time the character of the relief furnished has steadily improved. The national quarantine act, with the execution of which the surgeon-general is charged, was passed so late in the last session of Congress that the appropriation necessary to carry out its provisions could not be made. Notwithstanding this fact, everything has been done under the act which could be accomplished without the expenditure of money. By the aid of voluntary contributions, an investigation as to the cause of the yellow fever epidemic of 1878 has been undertaken, under the direction of the surgeon-general, by a commission of experts, whose report will be submitted to Congress. The attention of Congress is called to the expediency of requiring, by law, an examination of the officers of this service as a requisite to their appointment. The secretary renews the recommendation several times made to that effect. The metric system of weights and measures has been adopted for medical and pharmaceutical purposes in the service during the year. No embarrassment has resulted from its adoption.

NEW YORK.

— The twenty-third anniversary of the Woman's Hospital was held recently, when Ex-Governor E. D. Morgan occupied the chair, and addresses were made by the Rev. F. G. Courtney, of St. Thomas's Church, and the Rev. Dr. John Hall. The usual reports from the board of governors, the board of lady supervisors, and the treasurer were read; and from these it appeared that the institution was in a very flourishing condition, and doing excellent work. Dr. Thomas has appointed Dr. Henry D. Nicoll, formerly assistant to Dr. Marion Sims, his assistant surgeon at the hospital, in the place of Dr. Hunter, promoted to the rank of full surgeon.

— The cost of the new New York Hospital has been stated to have been $1,250,000. By the official report of the building committee we are informed that the "building proper" cost $595,069.41. This, however, does not appear to include the value of the land.

— A case of hydrophobia with a remarkably short period of incubation is reported from Guttenberg, just across the river in New Jersey. Only three days after receiving the bite, which was promptly cauterized, the patient exhibited symptoms of hydrophobia, and in four days afterward the disease had reached a fatal termination.

CHICAGO.

— Dr. J. O. Hobbs has recently exhibited to the local medical societies his invention of a modification of Tarnier's direct traction obstetric forceps. In this instrument the perineal curve is very great; a lateral view of the body of the forceps reminds one of a silver table-fork with extreme curve at the shank. This allows the blades to occupy a position parallel with the axis of the superior strait — in the superior strait — without the necessity of depressing the perinæum with the handles. The means for making traction in the axis of the superior strait consists of a saw-handle that is attached to the handles just back of the joint, and that projects directly downward. This is easily adjustable, and of course is laid aside while the forceps is being applied. This is a simple and inexpensive means of accomplishing the purpose of the French invention, which is both complicated and costly.

— Dr. J. C. Spray, soon after his election last year to the superintendency of the County Insane Asylum, introduced many reforms and thorough discipline into that institution. This met the opposition of the politicians both in and out of the county board of commissioners, and Dr. Spray was "investigated," and came near being turned out of the position. A year's efficient management has resulted in his reëlection by the new board, by a vote that was almost unanimous. Those of the profession who took the trouble to look into the matter never for a moment doubted the great value and entire propriety of the reforms instituted a year ago. During the year an advisory board of five medical men from the city has been appointed by the board of commissioners. The relations between this new body and the superintendent seem to have been perfectly harmonious.

LETTER FROM HALLE.

Volkmann's Antiseptic Methods.

Mr. Editor, — We find Professor Volkmann exceedingly polite and interesting, and in spite of a large private practice daily lecturing to a small class of students, beside spending two or three hours at the hospital. His hospital is quite small, very old, and dirty. The wards are crowded, heated by porcelain air-tight stoves, and poorly ventilated. His operating room is small, and provided with an asphalt floor which is sloped for drainage. During the operations, which are usually under carbolic acid spray, the wound, the hands of the operator and assistants, are from time to time thoroughly drenched with carbolic acid from a watering-pot. This is allowed to run over the operating table and on to the floor, so that soon the whole room swims in carbolic acid. Although a rapid operator, he has so much material that you often see him directing his assistants in their operations and at the same time operating himself. He is particular that the part to be operated on shall be thoroughly scrubbed with soap and a nail-brush, shaved even if there is no hair, and carbolized before beginning the operation.

For Professor Volkmann's dressings three thing are prepared with special care, namely, thymol gauze, benzoated cotton-wool (three per cent. and ten per cent. benzoic acid), and a bandage of plain gauze. He also uses instead of the Lister mackintosh a French gutta-percha paper, which is cheaper, lighter, and more easily adapted. In applying the dressing no protective is used, except over extensive raw surfaces. The thymol gauze, which is prepared especially soft and flexible, is applied dry to the wound directly, not in carefully folded layers, as is the Lister gauze, but rumpled and wadded and cut into bunches applicable to the case at hand for catching the discharge and regulating the pressure. Outside these wads several layers of folded gauze are placed; then comes the gutta-percha paper; then often large quantities of benzoated cotton, which is prepared very springy and fluffy, and which is especially packed about the edges where the dressing is apt to lift from the skin. The dressing is held in place by the gauze bandage, which is applied slightly wet with carbolic acid. The rumpled gauze next the wound renders the dressing more porous, and separates the gutta-percha farther from the wound, thus doubly guarding against stoppage of drainage by the pressure of the dressing. The gauze bandage beside being outside the fluffy cotton is in itself so thin that it yields in the tight places. In dressing a breast Professor Volkmann uses large quantities of benzoated cotton on an elastic flannel bandage. This can be very nicely adapted to the part with comfort and safety to the patient.

The benzoated cotton, which is particularly non-irritating, is quite extensively used, being often applied to granulating surfaces, and constituting the ordinary dressing for small wounds. These details concerning the dressings seem to us especially interesting, because we find Professor Volkmann operating in a dirty old hospital, so small that many important cases are from necessity treated as out-patients, personally never even directing a dressing, and rarely going into the ward, yet having most remarkably good results. First intention seems to be the rule, and not the exception.

To-day Professor Volkmann lectured on osteotomy, and showed a child eight years old, now an out-patient, whose legs had been straightened eight days ago by the removal of V-shaped pieces of bone. The legs were in plaster-of-Paris bandages, with fenestræ and antiseptic dressings over the wounds; the dressing being removed, the wounds on both legs were found to have healed completely. He also showed an arm amputated high up three days ago. There was no pus in the dressing, the flaps being well united. The next patient had had a melano-sarcoma removed from his back, with a large mass of glands from his right axilla, eight days ago. This man came to day as an out-patient, his wounds having been dressed twice before. To-day the axillary wound was found to be completely united, and a small granulating surface remained on the back. The glands were then removed from the other axilla.

Professor Volkmann's latest step has been in the excision of joints, and especially of the hip. He showed us several cases of excised hips which had done remarkably well, and had resulted in good motion with little shortening: one little boy, who was operated on five months ago, was running about as lively as possible; another boy, operated on ten weeks ago, was in very good condition, with the wound healed solid down to the drainage tube. He stated that he had resected one hundred hips during the last five years, and had had no deaths except from albuminuria and phthisis. He will soon publish these cases.

Ulcers of the leg having been carbolized were dressed with purified cotton; outside the cotton was placed a layer of gutta-percha paper; over this was a tight gauze bandage. Club-feet were usually treated with stiff bandages, often without cutting the tendon.

This afternoon Professor Volkmann kindly showed us over his new hospital, which is not yet finished. Although not large, it is quite handsome, being admirably situated on the highest ground in the town. It is built of brick and wood, mostly in the form of large pavilion wards, which are often not connected by corridors. The wards are high, well ventilated, with large windows and piazzas on the sunny sides. All the floors are made of a polished cement, and are so arranged that they can be easily flooded. There is a well-constructed set of steam baths. The amphitheatre is so built that the operating table stands in a small L extending out from the main building, and all the sides and the roof of this L are made of glass; thus, besides having an excellent light for the operator, the windows are as it were foot-lights for the students in the seats. The hospital is admirably and elaborately arranged for students.

J. W. ELLIOT.

HALLE, *October* 30, 1878.

SHORT COMMUNICATIONS.

BULLETIN OF THE PUBLIC HEALTH.

ISSUED BY THE SURGEON-GENERAL U. S. MARINE HOSPITAL SERVICE, UNDER THE NATIONAL QUARANTINE ACT OF 1878, FOR THE WEEK ENDED DECEMBER 7TH. No. XXII.

OFFICE SURGEON-GENERAL M. H. S., WASHINGTON, *December* 11, 1878.

YELLOW fever has almost wholly disappeared from the Mississippi Valley. In New Orleans four deaths were reported during the past week. The total number of cases up to date is reported as 22,600. There was one death and one new case at Port Gibson, Miss. One new case (a returned refugee) at Meridian, Miss.; one death at Memphis on December 6th; three cases and one death at Mobile for week ending December 10th.

NEW HAVEN, CONN. — For the month ended November 30th there were 87 deaths from all causes, 19 being from preventable diseases. The annual death-rate per 1000 of the population was 17.4.

NEW YORK. — Week ended December 7th. Total deaths 455; annual rate 21.8. Twenty-eight deaths resulted from scarlet fever, 19 from diphtheria, 74 from phthisis, 49 from pneumonia, 17 from bronchitis, and four from enteric fever. During 1878 only two deaths from small-pox have occurred in the city. This immunity is attributed to the efficient system of free vaccination that is carried out.

BROOKLYN, N. Y. — Week ended November 30th. Deaths from all causes 155. Annual ratio 14.68. Forty-one cases of scarlet fever and six deaths; 37 cases of diphtheria and 12 deaths; 22 deaths from phthisis; 20 deaths from pneumonia, nine from bronchitis, and seven from croup.

Week ended December 7th. Reported deaths from all causes 175. Rate 16.6. Thirty-eight cases and six deaths from scarlet fever; 33 cases of diphtheria and 12 deaths.

PHILADELPHIA, PA. — Week ended November 30th. Total deaths 299. Annual ratio 17.75. Seven deaths from diphtheria (minors), six from scarlet fever, eight from enteric fever, 53 from phthisis, 20 from pneumonia.

BOSTON, MASS. — Week ended December 7th. Deaths from all causes 143. Annual rate 21. There were 21 cases of scarlet fever and one death; 80 cases of diphtheria and eight deaths.

WILMINGTON, DEL. — For the month ended November 30th the total deaths were 59, including seven from diphtheria, two from scarlet fever, and one from enteric fever. The annual rate 17.7.

BALTIMORE, MD. — Week ended December 7th. Deaths from all causes 120. Annual rate 17.1. There were 20 cases of enteric fever and five deaths; five cases of diphtheria and one death. Pneumonia prevalent.

LYNCHBURG, VA. — Month of November. Total deaths 23. Rate 16.3. Diarrhœa, diphtheria, and enteric fever each caused two deaths.

CLEVELAND, OHIO. — Week ended December 7th. Total deaths 49. Annual rate 15.7. Seven cases of scarlet fever and five deaths; 23 cases of diphtheria and eight deaths.

MILWAUKEE, WIS. — Deaths from all causes 38. Annual rate 16. Twenty cases of diphtheria, with nine deaths.

NASHVILLE, TENN. — For the month ended November 30th the total deaths numbered 40, "zymotic" disease causing two (dysentery), phthisis eight, pneumonia seven deaths. Annual rate per 1000 for the month 14.76. Among the white population the rate was 11.42 per 1000 against 20.87 in the colored.

CHARLESTON, S. C. — Week ended November 30th. Total deaths 23. Annual ratio 24.

SAVANNAH, GA. — For the week ended November 29th the deaths reported numbered 29; an annual ratio of 54. For week ended December 7th there were 12 deaths. Ratio 22.2.

MOBILE, ALA. — For the month ended October 31st there were 132 deaths, 40 being from yellow fever; 12 from phthisis.

HAVANA, CUBA. — During the week ended December 7th there were 10 deaths from yellow fever and 12 from small-pox.

ST. THOMAS. — The United States consul telegraphs that yellow fever has appeared in the island.

GREAT BRITAIN. — Week ended November 16th. In twenty-three of the largest cities and towns of the United Kingdom there were 5637 births and 3993 deaths, an annual rate of 35.1 and 24.9 per 1000 of the population respectively, the death-rate ranging from 14 at Leicester and 17 at Portsmouth and Brighton to 32 at Liverpool. The percentage of deaths from seven "zymotic" diseases per 1000 of the population ranged from 0.5 at Brighton to 7.6 at Liverpool.

LONDON. — The total deaths for the week ended November 16th were 1665, a rate of 24.5 against 20.2 and 23.2 in the two preceding weeks. There were 434 deaths from pulmonary diseases, 269 being from bronchitis, 64 from scarlet fever, 43 from whooping-cough, 13 from diphtheria, 37 from fevers, 16 from small-pox. No death from the latter disease occurred in any of the other nineteen large cities of England.

LIVERPOOL. — Week ended November 16th. Total deaths 322. Annual rate 31.5. Fifty-nine deaths from scarlet fever, six from enteric fever, and two from diphtheria.

DUBLIN. — Week ended November 16th. Deaths from all causes 176. Annual ratio 30. There were two deaths from typhus, five from enteric, and six from scarlet fever; 32 from phthisis, and 42 from other pulmonary diseases. There were 62 cases of small-pox in the hospitals and 11 deaths from the disease.

GALWAY. — Since July small-pox has been fatally prevalent, 42 deaths having occurred in a population of 19,000 during the seventeen weeks preceding November 9th.

EDINBURGH. — In the week ended November 16th the death-rate fell from 23 in the previous week to 16. From "zymotic" diseases two deaths.

GLASGOW. — For the same week the rate rose from 21 to 26.

AMSTERDAM. — For the two weeks ended November 16th the deaths from all causes numbered 238, an annual ratio of 20.5. Two deaths from typhus, two from enteric, and four from scarlet fever.

ANTWERP. — Week ended November 16th. Seventy-seven deaths. Annual rate 25.4.

GERMAN EMPIRE. — No statistical returns received. Diphtheria is prevalent in various portions of the empire, and public attention has been directed towards means of prevention of this scourge by the prostration of six members of the royal family of Hesse with the disease, two having died.

TANGIER, AFRICA. — During the four weeks preceding October 5th there were 1069 deaths at Casa Blança from cholera, 163 from small-pox, 32 from typhus fever, the total deaths from these diseases being 1264 in a population estimated at 5500. The consul reports that no note is taken of deaths by famine, accident, or common diseases.

INDIA. — In Madras enteric fever of a fatal type is very prevalent in the native portions of the city, which are described as extremely filthy and quite devoid of sanitary regulations. In 1876–77 the deaths from small-pox in India numbered 200,000, and in the preceding two years 500,000. During 1875–76 only 2 deaths from this disease occurred among 120,000 European troops, the exemption being clearly due to vaccination.

The latest returns from the following cities give the annual death-rate per 1000 for Madras at 52, Alexandria 50, Cracow 39, Bombay 37, Munich 34,.Calcutta 33.4, St. Petersburg 32, Rome 28, Vienna 27, Berlin 26, Paris 25, Rotterdam 25, Hamburg 23, Geneva 20, Copenhagen, 19, Stockholm 15.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

MR. CALLENDER'S CARBOLIC OIL METHOD.

A PATIENT has just left the wards of Dr. Bigelow at the Massachusetts General Hospital whose breast, after excision, was most successfully treated in the way employed by Mr. Callender at St. Bartholomew's, — a variety of Lister's antiseptic method. In one week a wound seven and a half inches in length had perfectly united at every point except the small orifice where the drainage tube had been removed. There was no swelling or induration of the flaps, which were as soft and level as the surrounding integuments. The wound had been dressed daily, — at first twice a day, — without any pain whatever to the patient; even without discomfort.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Dec. 7, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	455	21.64	23.42	28.71
Philadelphia.	876,118	295	17.51	18.80	21.54
Brooklyn.	549,438	170	16.10	21.51	25.50
Chicago.	460,000			17.83	22.39
Boston.	375,476	143	19.80	20.10	24.34
Providence.	100,000	37	19.24	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	12	11.27	20.06	22.30
Cambridge.	53,547	11	10.68	18.69	20.83
Fall River.	53,207	37	36.16	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	9	13.78	16.02	19.77
Salem.	27,140	13	24.90	20.38	21.15

THE METRIC SYSTEM IN MEDICINE.

OLD STYLE.	METRIC. Gms.
i. or gr. i. equals	06
fʒi. or ʒi. equals	4
f℥i. or ℥i. equals	32

The decimal *line* instead of *points* makes errors impossible.

As .06 (Drug) is less than a grain, while 4. and 32. (Vehicle) are more than the drachm and ounce, there is no danger of giving too large doses of strong drugs.

C. C. used for Gms. causes an error of 5 per cent. [excess].

A teaspoon is 5 Gms.; a tablespoon, 20 Gms.

Erratum. — Dr. Bowditch requests that the second "He" in the last line of page 772 should be changed to "The." Dr. Bowditch meant to say that "the first failure to found a general library did establish the pamphlet library," etc.

Obituary. — Dr. S. Augustus Arnold, the oldest member of the Rhode Island Medical Society, having joined in 1822, died suddenly in Providence Thursday afternoon, aged eighty-one.

Books and Pamphlets Received. — Lacerations of the Cervix Uteri. By William Goodell, A. M., M. D., Clinical Professor of Gynæcology in the University of Pennsylvania. May, 1878.

Les Tumeurs adénoïdes du Pharynx nasal. Par le Dr. B. Loewenberg. Paris. 1879.

National Medical Review. Vol. I., No. 1. Walter S. Wells, M. D., Editor. Washington, December, 1878.

Otitis Media Suppurativa. A paper read before the Maine Medical Association, June 11, 1878. By E. E. Holt, M. D., of Portland. 1878.

Artificial Feeding of Infants. By A. Clendinen, M. D. Fort Lee, N. J. 1878.

The Testimony of Medical Experts. Annual Address of W. H. Phillips, M. D., Kenton, Ohio, President Ohio State Medical Society.

Transactions of the Thirty-Third Annual Meeting of the Ohio State Medical Society held at Columbus, May 14–16, 1878. Columbus, Ohio. 1878.

Catalogue of the Missouri University, at Columbia, Missouri. 1877–1878.

Essentials of Chemistry, Inorganic and Organic, for the Use of Students in Medicine. By R. A. Witthaus, A. M., M. D., Professor of Chemistry in the Medical Department University of Vermont, etc. New York: William Wood & Co. 1879. (From A. Williams & Co.)

A Manual of Physical Diagnosis. By Francis Delafield, M. D., and Charles F. Stillman, M. D. New York: William Wood & Co. 1878. (From A. Williams & Co.)

The Influence of Uterine Displacements in producing Abortions, Dysmenorrhœa, and Sterility, and their Treatment, with Cases. By G. M. B. Maughs, M. D., Professor of Obstetrics and Diseases of Women in the Missouri Medical College, etc. (Reprint.) St. Louis. 1878.

Report of the Building Committee of the New York Hospital, with the Inaugural Address by W. H. Van Buren, A. M., M. D. New York. 1877.

A History of the Diagnosis, Pathology, and Treatment of Yellow Fever. By J. B. Marvin, M. D. (From the American Practitioner, November, 1878.) Louisville, Ky.

The Illinois State Medical Register for 1878–1879. D. W. Graham, A. M., M. D., Editor. Vol. IV. Chicago: W. T. Keener. 1878.

A Review of the Neuroses of the Pneumogastric and Sympathetic Nerves. By John J. Caldwell, M. D. Baltimore, Md. (From the Virginia Medical Monthly.)

Annual Report of the Surgeon-General, United States Army. 1878.

A Case of Acute Puerperal Inversion of the Uterus. By John Byrne, M. D., M. R. C. S. E. (Reprint.) New York. 1878.

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LECTURES.

CLINICAL OBSERVATIONS UPON ABDOMINAL ANEURISM, WITH SPECIAL REFERENCE TO TREATMENT.[1]

BY J. M. DA COSTA, M. D.,

Professor of the Principles and Practice of Medicine in the Jefferson Medical College, Phila.

Gentlemen: Embracing the opportunity afforded me by the presence in our wards of several cases of aneurism of the abdominal aorta, I shall take up this subject for clinical discussion, this morning, bringing two of the patients before you; and supplementing the records of these hospital cases with the notes of others observed by me here and elsewhere, in order to form a group, by the examination of which we may bring into bold relief some of the more important points in the clinical history of this grave affection, that may hereafter serve as elements of diagnosis and prognosis. We shall also endeavor to establish, if possible, some general principles of treatment, through which this unhappy condition may be ameliorated if not improved.

Before looking at the clinical phenomena, let us inquire whether abdominal aneurisms differ in their anatomy from those of other parts of the body. What constitutes an aneurism? An abrupt, asymmetrical increase in the calibre of an artery, tending to the formation of a supplementary cavity, pulsating synchronously with the primary vessel, is an aneurism, no matter where it is found. We need not dwell upon the very various nomenclature applied to different forms of aneurisms, to describe peculiarities of shape or position, since for clinical purposes the anatomical division, long ago proposed by Scarpa, into true and false aneurisms is sufficient. The first class comprises those whose walls retain the three original coats of the arterial tube, a condition extremely rare in a large aortic aneurism; the second includes those formed by a rupture of the middle and inner coats, leaving the aneurism covered by condensed connective tissue, which is the ultimate variety of abdominal aortic aneurism. Should the blood suddenly escape from the vessel, it may separate the layers of areolar tissue, and form what is termed a dissecting aneurism; a remarkable instance of which, with the autopsy, I shall presently bring to your notice.

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[1] Delivered at the Pennsylvania Hospital.

The pressure of the blood upon the inner surface of the large arteries, you will remember, is in health about four pounds to the square inch, a factor in the production of aneurism which should not be overlooked. The power of resistance of the vessel to this force may be diminished through impairment of the integrity of its structure, either from disease or by mechanical injury. However just an ætiological classification into spontaneous and traumatic aneurisms may be as applied to the smaller arteries, we nevertheless find that in aortic aneurism it is, at least from a clinical point of view, untenable. While a vascular degeneration may progress unsuspected until its mischief is revealed by the yielding of the walls under a slight increase of strain which would not injure the normal vessel, on the other hand a force sufficiently powerful to rupture the healthy aorta would almost inevitably be immediately fatal from shock or hæmorrhage; an injury far less in degree, however, might lead to certain inflammatory changes, followed by softening or ulceration and the ultimate development of an aneurism. Therefore, while the division into traumatic and spontaneous appears to be a natural one, we find that, clinically speaking, it will not apply to aortic aneurism, in which these causes are generally coexistent and inseparable.

It is understood that simple hypertrophy or symmetrical enlargement of the calibre and coats of a vessel does not constitute aneurism. This is to be distinguished, however, from cylindrical dilatation, with thinning of some of the vascular coats, which constitutes a true cylindrical or fusiform aneurism, and which is not infrequently encountered in the course of the thoracic and abdominal aorta. The question may arise, Does hypertrophy of the heart ever give rise to aortic aneurism? Many cases of cardiac hypertrophy have been before you in which no aneurism ever appeared; and there are cases of abdominal aneurism of considerable extent, in which the heart's impulse is weakened and the organ not increased. An aortic aneurism, moreover, does not constitute such an obstruction to the circulation as would necessarily give rise directly to hypertrophy. Yet while this condition never causes the aneurism, we observe at times the aneurism associated with it, and having led to it.

In reviewing the causes of degeneration of the walls of the aorta, which is acknowledged to be the most frequent and predisposing element in the formation of aneurism, we find chronic endarteritis, or atheroma, occupying a prominent position. It is favored by many cachectic conditions of the system, such as syphilis, gout, rheumatism, or Bright's disease, and is also of frequent occurrence in advanced life. The condition may be due to an extension of an endocarditis, or it may arise primarily in the endothelium of the aorta in an inflammatory process, leading ultimately to local fatty degeneration and the formation of an ulcer. Fatty degeneration may also occur in the middle or elastic coat of the aorta. Finally, simple atrophy or thinning of the aortic walls may appear, either as an accompaniment of advanced life, or, as suggested by Rokitansky, from some affection of the vaso-motor nerves.

Atheroma also is favored by the intemperate use of alcohol; and Virchow has observed fatty degeneration of the *intima* accompanying cases of anæmia.

An aneurism of the aorta may attain immense size before causing death, but in its growth it gives rise to certain symptoms which are more or less characteristic. From pressure upon the vertebral column there is often set up a carious condition of the bodies of the vertebræ, leading to the production of bone pain, in addition to the neuralgia caused by pressure upon the sympathetic plexus and intercostal nerves. There are also the signs of pressure in the dyspnœa, fullness of superficial veins, and occasional ascites; even jaundice from reabsorption of bile may be produced by hepatic congestion and pressure upon the common choledoch duct. The physical signs upon which the diagnosis may be based are extended impulse, murmur and thrill, increase in percussion dullness, or, in brief, the signs of a pulsating tumor containing blood. Before considering the differential diagnosis, however, permit me to call your attention to this patient, as illustrating the ætiology of the disorder. He gives as clear a history of traumatism as could be obtained, but, as you will see, there are some reasons for believing that the vessel was not antecedently in a perfectly healthy condition.

Case I. S. McK., forty years of age, born in Ireland, a coal miner, was admitted into our wards three weeks ago. He then told us that he had been a strong and healthy man until last April, when he was accidentally crushed by a car running down an incline. When taken out of the mine he was insensible, and bled from his mouth and nose, and subsequently vomited blood. After remaining in bed for eleven days he felt well enough to attempt to resume his work, but was unable to continue on account of pain in his back. After the first few days hæmatemesis did not recur, but he has been complaining of weakness and lumbago ever since the injury, and has not been able to work. In about six weeks after the accident he noticed a pulsation in his abdomen, which afterwards increased and became more heaving. After eating a full meal he felt particularly oppressed. His bowels generally tended to constipation, but the pain was not increased by efforts at defæcation. He had become subject to headache, and his eyesight was less good than before. When on his feet he had constant pain in the back in the lumbar region; he had also suffered from pain at night, especially after moving around during the day.

Upon admission we found localized heaving of the abdominal wall, above and a little to the right of the umbilicus, without marked dullness on percussion. A murmur, synchronous with the ventricular systole, could be heard over the point of greatest pulsation, but it was not very harsh, and it was followed by the faintest indication of a second sound. The murmur increased in intensity in passing from any direction towards a point about three inches above the umbilicus; it was much more distinct upon the right than upon the left side. There was also a very faint murmur heard posteriorly, to the right of the lower dorsal vertebræ. No variation was detected between the radial and femoral pulses of the two sides. The liver dullness stopped abruptly at the border of the ribs, but its area was not materially diminished. No disease of the kidneys could be discovered after repeated examinations of the urine. There were no cardiac murmurs, and no marked condition of ventricular hypertrophy. Although he had a slight cough and mucous expectoration, there was nothing to show that this was due to anything more than a small amount of intercurrent bronchitis. In giving his history it should have been stated that although he denied the manifestations of syphilis, he acknowledged having had gonorrhœa several times, and confessed that he had been intemperate in his habits.

His treatment consisted mainly in the free administration of iodide of potassium. I shall not at present do more than mention it. As he has been under our care for three weeks, I will now make another careful examination into his physical condition.

You see in him a well-nourished, muscular man, whose face shows the ruddy hue of health, and disarms any suspicion of disease. But let us examine him. The pulse is full and rather strong. Auscultation of the heart is rendered a little difficult this morning by the presence in the adjacent lung of some coarse râles of bronchitis, which we have before noticed, but there are no cardiac murmurs, and the impulse is of considerable strength. The soreness he complains of in the epigastric region is not materially influenced by pressure, although he stated that this locality was tender a short time ago. The pain itself is now much relieved. Indeed, all his symptoms have ameliorated while under treatment, including headache and indigestion. We should not overlook the fact that one of the prominent features of the case from the beginning has been the pain radiating from the right epigastrium to the back and to either side, but never downwards.

The occurrence of severe abdominal pain in a man apparently healthy, in whom there is no disease of the stomach or liver, suggests urinary difficulty, and we have accordingly examined his bladder, and have found no evidence of a stone or other disease either of bladder or kidney. We are now led to study the condition of the great vessels, since we know that there is no intestinal disorder to account for the symptoms. Uncovering the abdominal surface, you observe that considerable beating is still present above the umbilicus, strong enough to move my hand, placed over this area. With the stethoscope I can hear a harsh murmur in this locality, also faintly perceptible in the back, to the right of the spine, on a level corresponding with that in the front. Upon percussion I am still unable to elicit the evidence of marked dullness.

We have in this case a history of a severe crush followed by epistaxis and hæmatemesis, and eventually by throbbing of the abdominal aorta, accompanied by a murmur and pain. It is true that the latter symptom has immensely improved since he came into the hospital, but although the pain has subsided the pulsation and murmur persist.

I shall now invite your attention to a case of abdominal aneurism in which the occurrence of a strain and heavy lifting appeared also to warrant the idea that traumatism was the sole cause of the disorder, until we inquire into the history, from which we learn that this patient has also been intemperate, and now labors under constitutional syphilis. It might furthermore be stated that the degeneration of vessels that is known to follow the essential fevers may also enter into the explanation, as he had a severe attack of small-pox attended by considerable lumbar pain some time previous to the appearance of the abdominal throbbing.

Case II. Frank McC., a laborer, fifty-two years of age, a native of Ireland. No inherited disease, and naturally robust and strong. He has been a drinking man, and eleven years ago contracted syphilis, followed by secondary symptoms, and his wife has had a number of miscarriages. Nine years before admission he had an attack of small-pox, attended by great pain in the back; after this he was in good health until three years ago, when, following exposure to bad weather, he had severe lumbago, which did not yield to treatment. A year later this symptom had become so aggravated that he was obliged frequently to sit up at night, the pain being unbearable in the recumbent position. It should be stated in this connection that at that time, and previous to it, he had been working very hard at heavy labor and lifting. About six months after this his attention was attracted to a beating in the stomach, accompanied by constant pain, increased after eating. He had also orthopnœa, which prevented him from sleeping in bed for weeks at a time. He never had rheumatism of the joints, nor any lancinating pains anywhere, but this aching in the back sometimes extended around upon each side, giving the impression of having a tight cord around his waist. If we add to this brief outline the fact that his bowels had been generally constipated, we have a fair idea of the previous course of the disease.

Physical examination of this case also revealed marked pulsation, more evident in the erect posture than when the patient was lying down, but no thrill was detected in either position. By percussion we

found that the area of dullness outlined a tumor in the
occupying mainly a central position, but extending rat
right side than to the left, and from the ensiform carti
bilicus. To the right the impulse was more expansive
left. With the stethoscope, over the centre of this are
harsh murmur was distinguished; and in the back, at
the murmur was even more marked than in the fro
the heart I found the evidence of a certain amount of
faint systolic, mitral murmur. Thus far the previous r
Let me now add that after placing him upon the same
as the preceding case, for less than two months, I ca
to you with the tumor much reduced in size, the t
discernible, and all pain and inconvenience gone. Th
be continued for a few weeks longer, in order to confi
sult, at which time he will, I think, be able to resum
cupation.

I have said that this is a case of abdominal aneu
cannot see any reason to question this diagnosis. L
to the preceding patient, and determine to what class
In looking for an explanation we have two possibiliti
abdominal aneurism, and aortitis; and I confess tha
discussed the matter it will still not leave my mind
doubt; because there is no condition more difficult of
than abdominal aneurism in its earliest stages. In
first suggested we have the history of injury and th
To the latter symptom I am inclined to attach much
nal aneurism is always accompanied by pain in the
mechanical causes: the progressive interference with
of the great sympathetic; the impinging upon the
at their origin; and, finally, the erosion of the ve
pressure, thus producing bone pain in addition to the
Another element, which might be considered distinc
is the definite location of the murmur in the aorta,
throbbing. Thus far everything is in favor of aneuris

flammation. The pain of aortitis is transitory and not here it was continuous, and was so marked that it was actu from this symptom that he sought admission into the hospi aneurism of the abdominal aorta does not generally give ical signs ; it will not, for instance, produce a decided impu mur and thrill, yet very early in its course we find aching back to be the chief source of complaint. The terminatio proportion of cases of aortic inflammation in softening or f ation, that is to say, the conditions which we have found to the formation of aneurism, warns us of the importan recognition of this morbid state and the necessity of its tr those principles which I will lay down in the conclusion of in speaking of the regimen to be pursued in cases of abd rism.

What adds to the difficulty of the diagnosis of incipie aneurism is the fact that extended impulse may be due to thetic or nervous palpitation, especially in excitable yo where it may be found to exist in even a more marked de either of these patients before you. Such cases may be by the absence of persistent murmur, thrill, and increase dullness. It is true that an anæmic murmur may complic and be all the more readily heard if strong pressure be m stethoscope, but the character of the sounds and their pre vessels of the neck and elsewhere will furnish the clew meaning. Moreover, the age and sex of the patient wil your guard ; aneurisms belong, as a rule, to middle and a and are rare in women, — especially rare among those wh laborious or heavy work.

A more difficult differential diagnosis is that between abd rism and an overlying tumor pressing upon the aorta and its pulsations. This would give increased percussion dulln impulse, and perhaps a blood murmur ; but the early course of the disease will be of great assistance in decid diagnosis. One point, however, should be borne in mi the statement made a few moments ago, you will remem of the most constant signs of aneurism is pain in the back without it. The absence of thrill is therefore not conclusive evidence on either side. In malignant growth overlying the aorta you will generally find, besides vomiting and digestive disorder, a certain amount of cachexia, which does not occur in aneurism, except, indeed, from pressure upon the thoracic duct, as in a case which came under my observation in private practice some years since.

I have brought before you two unusual illustrations of the successful termination of abdominal aneurism, or, at least, of its arrest. Had I time I could give you, from my own experience, several more cases: one in particular, a man of about thirty-four years of age, was under my care for sixteen months, when his recovery was so perfect that thrill and impulse disappeared, and abdominal, percussion-dullness only was left. In another case the man remained more or less continuously in bed for eight months, with the greatest improvement in his condition. In a third, a clinical case, which I saw at intervals of several months for a period of about a year, a remarkable change in the physical signs and general condition took place; but while the aneurism could always be detected, it had greatly diminished in size, and pain had all gone, and no longer interfered with the patient's pursuing his occupation.

I wish I could tell you that these results were always to be obtained by due management of abdominal aneurism. Unfortunately, sooner or later, this affection is apt to prove fatal, though it is astonishing to observe with how little impairment of the general health it may be associated, even when the physical signs are marked. I could of course read you the notes of many cases illustrating the usual progress of the disease, and refer to much post-mortem evidence that I have had the opportunity of inspecting, even in cases in which the symptoms have been latent; but this would make my discourse this morning too long. You will, moreover, find numerous cases on record, though proportionately far fewer of such favorable terminations than I have this morning called your attention to. The following is an instance of the unfavorable termination of the disease. I will very briefly state to you the clinical history and notes of the autopsy of this patient, who was lately in the wards, and whose case is an excellent illustration of the rare form of dissecting abdominal aneurism.

CASE III. A leather cutter, of American birth, forty-two years of age, of temperate habits, and claiming to be free from inherited or acquired taint, was seized, on the morning of admission, with pain in the right hypogastric region, extending backward to the sacrum, down the back of the legs, and involving the right testicle. He never had experienced such an attack. The pain was so severe that he could not walk nor stand, and nearly fainted on the street, and in this condition he was found and brought by his friends into the hospital. His bowels had been freely moved half an hour before; he had not eaten anything unusual, nor had he been engaged in any hard work. He stated that for a number of years, while at his occupation, he had been in the habit of leaning against the cutting board, pressing it into the right hypochondriac region. There was a reducible inguinal hernia upon this side, and also a tendency to ventral hernia.

The patient was not emaciated, but was sallow and anæmic. The heart was excited : first sound weak, second distinct; pulse feeble. There was no swelling of the feet, and no ascites.

Without stopping to give the detailed physical signs, I may state that there was evidence of an irregular mass overlying the aorta and receiving a heaving impulse from it, occupying the whole of the right umbar and inguinal regions, merging into the hepatic dullness at a point two inches from the middle line, filling the right half of the umbilical region, and extending a little beyond the centre. The mass was resisting and somewhat tender. No murmur and no fremitus could be perceived, but the sounds of the heart were transmitted : the first sound was dull, low-pitched, and murmurish, yet there was no decided murmur ; the second sound was accentuated and distinct. He had retention of urine, requiring the constant resort to the catheter. After a week's treatment no material change could be detected, except that the patient was sinking into a low state ; he had a dry, brown, and fissured tongue, and a more cachectic appearance. Auscultation of the back could not be attempted on account of faintness brought on by any change of position. The bowels had been freely moved, yet the dullness remained as before. On the eighth day the patient died in collapse. He had not complained of any more attacks of acute pain, but had more or less aching in the back during the treatment, requiring small doses of anodynes.

With the sphygmograph the right femoral artery was more feeble than the left, but neither was as strong as the radial at the wrists.

At the autopsy, the left ventricle was thought to be thickened, and it contained a fibrinous clot ; all the valves were healthy. The ascending aorta was dilated, the walls were thickened, and yellow spots of atheroma were seen upon its endothelial surface. The remainder of the thoracic aorta appeared to be healthy. The right lung in its lower part was deeply congested.

Upon inspecting the peritoneal cavity it was found that both flanks were filled with a doughy mass which extended, on the right side, down into the scrotum. Its color was reddish-black, seen through the smooth and shining peritonæum, which was stretched over it. The mass displaced the cæcum forwards, upwards, and inwards, thence extending upward into the hypochondriac region.

The aorta being divided along its posterior surface, a small sacculated dilatation on the anterior aspect was discovered, about three inches in diameter. The inner surface of the aneurism displayed several fissures, the wall was thinned, and, at one point, a firm black clot occluded what had been a recent rent. The large mass was composed of tolerably firm black clot, which had escaped into the loose connective tissue, and had dissected the peritonæum from the whole posterior wall of the abdomen; its greatest volume was to the right of the vertebral column. The clot had crept around and completely enveloped the kidneys, the great vessels, and the right testicle, the right half of the scrotum becoming livid after death.

The aneurism was below the cœliac axis, in the neighborhood of the origin of the superior mesenteric artery, if, indeed, it did not include this vessel. Another small aneurismal dilatation was found on the right external iliac artery, which was about the size of a walnut; it was also filled with adherent clot, leaving, however, a passage for blood on one side.

Let us now return to some of the points in the pathology and treatment of the affection as presented by the cases we have been reviewing. In considering the cause of abdominal aneurism, we find that in none of these cases could we attribute it to senile change. They were too young to have atheroma from advanced age. In this connection let me broadly state that where abdominal aneurism occurs in early life or beginning middle age, it is generally due to syphilis. In fact, its prevalence among soldiers has been explained in this way. You must not, however, suppose that syphilis directly produces aneurism, but that certain changes of a chronic inflammatory and degenerative character take place, by which the muscular and elastic tissues are weakened and prepared to yield suddenly under an ordinary strain; or adjacent structures have their resisting power in like manner reduced, and gradually give way. Its agency in the production of atheroma has been particularly recognized by medico-military authorities. Syphilis, I regard as a very active and positive predisposing cause of aneurism of the aorta.

In a case of abdominal aneurism what should be the principles of treatment? The regimen I have pursued in these cases, and which has been singularly successful in my hands, has been absolute rest in bed, a plain, unstimulating, nutritious diet, and, finally, the persistent use of iodide of potassium. In the first patient this treatment has produced so much change in the short time that he has been under our care that you would scarcely recognize in him the haggard and suffering man who sought admission less than one month ago. This course is that which I have been accustomed to follow of late years, and I have seen, I think, cure resulting from it in undoubted cases. In the case of a gentleman, the superintendent of a factory in Delaware whose history I have already referred to, who came to me suffering from abdominal aneurism, and whom I kept in bed continuously for eight months, during all of which time he took large doses of iodide of potassium, such a change was wrought that at the end of this period he seemed to be completely cured, and resumed his occupation.

The instructions must be positive to continue in the recumbent posture, while the treatment by the iodide is pushed to its full constitutional limit. If the stomach reject the remedy, or the patient become disgusted and nauseated, stop it for a time, and return to it in smaller doses, again steadily increasing as the stomach becomes accustomed to it. I generally commence with ten-grain doses, given thrice daily, and run it up to one hundred and fifty or even one hundred and eighty grains per diem; it is rarely necessary to go beyond this. It is also important to keep down the force of the circulation, so that the heart shall be at not over 75 to 80, by the administration of aconite or veratrum viride. By this means we favor the deposition of a laminated fibrinous clot on the inner wall of the aneurism, in the hope that it will gradually encroach upon the cavity until it becomes entirely obliterated.

The explanation of the treatment by iodide you might think was suggested by what we have considered as the frequent cause of the trouble, — syphilis; but apart from this the iodide has been found to be an excellent remedy in internal aneurisms. This is not an old treatment; at least its value has not been appreciated until within a few years. Balfour,[1] in 1869 and 1871, reported several cases of aneurism cured by this therapeutic plan, but it had been previously recommended as early as 1859 by Bouillaud. A number of successful cases have since been reported, of which I have published a few. The management by astringents, particularly tannic acid and the acetate of lead, has not met with much favor. Ergot, which has been administered in other internal aneurisms, I have employed, but have thus far failed to find it of any value in abdominal aneurism. A series of cases of cure of thoracic aneurism by electro-puncture have been reported by Ciniselli[2] and others, Dr. McCall Anderson[3] having had very favorable results in two cases. For manifest reasons this plan is inapplicable to disease of the abdominal aorta, and I will not, therefore, devote any time to its consideration. The treatment by ligature or distal compression I need not refer to, as the subject is fully discussed in your treatises upon surgery, perhaps more particularly by Mr. Holmes in his lectures upon the surgical treatment of aneurism. Returning to the therapeutic consideration, we find that cases have been reported in which a cure has followed the postural treatment alone, with a restricted diet, but when we add to this the administration of the iodide of potassium and sedatives, we have, medically speaking, put our patient under the most favorable conditions for his recovery. Under the influence of potassic iodide the force of the heart's contraction and the blood pressure are both modified, — properties which are not possessed by the remaining iodine salts. I feel confident that by this regimen the prognosis of the affection is rendered less grave, and moreover permanent relief may be confidently expected in a large proportion of cases, particularly in the earlier stages of the disease, provided the treatment be faithfully carried out.

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[1] Edinburgh Medical Journal, 1869 and 1871.

[2] Quoted by Quincke, Ziemssen's Cyclopædia, vol. vi., page 455.

[3] Clinical Medicine, London, 1877.

THE PHYSIOLOGY OF SLEEP.

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It is well to be cautious how we accept theories, for one stubborn fact, as Tyndall has said, will upset a whole freight train of theories. It once appeared to us settled that the proximate cause of sleep was anæmia of the cortical gray matter, — the centres of ideation, comparison, and volition. The theory worked very well. *A priori* it appeared quite probable that less blood should go to the brain during its quiescence than during wakeful activity.

Moreover, there were not wanting observations to suggest and confirm this view. During intense thought and passion did we not see the temporals swell and throb and the face become turgid, and during the insensibility of syncope, epilepsy, catalepsy, did not the external appearances favor the opinion that the brain was relatively anæmic? Must there not be relative anæmia during the insensibility of sleep also?

We had carefully read and noted Monroe's observations and conclusions as to the contracted condition of the arterioles and the pallor of the convolutions during sleep; these had been confirmed by Hammond and Brown-Séquard. Durham's investigations on the physiology of sleep had been published as early as 1860, and seemed to be exceptionally careful and accurate. Pierquin a little earlier recorded an interesting series of observations on a girl in Montpellier who had lost a large portion of her scalp and skull. "Her brain could be seen for a considerable extent of surface. When she was in dreamless sleep her brain was motionless and low within the cranium; but when her sleep was imperfect and she was agitated with dreams, her brain moved and beat, more blood was sent to it, the arteries were relaxed, and the brain protruded through the opening in the skull. When she was awake the same difference was observed, in accordance with the activity or quiescence of her mind."[1]

Donders "made a cruel but striking experiment. He cut away a part of the skull of an animal, and cemented in its place a piece of glass, and observed that in the waking state the brain is larger than it is during sleep, while in the latter condition it is pale and bloodless."[1] Brown-Séquard, in his Leçons sur les Nerfs vaso-moteurs, had given his assent, based on similar observations, to the same view, and had said that sleep " resembled a light attack of epilepsy." If any further support to the *anœmia* theory was needed it seemed to be given and all the demands of rigorous criticism satisfied when, in 1869, Hammond, of New York, published his little work on Sleep and its Derangements, wherein a number of independent researches pointed to the same conclusion.

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[1] A. Combe's Physiology, page 147.

It was very convenient to have a good theory of causation, for now it was plain how hypnotics must act, and what were the indications in insomnia. If chloral, bromides, anæsthetic and narcotic agents, caused sleep, it would seem to be, for the most part, by contracting the cerebral blood-vessels, and thus diminishing the blood supply.[2] The vaso-motor system had the principal part in this physiological change. To be sure, experimental researches had given contradictory results, but on the whole there seemed to be a considerable number of facts that went to show that hypnotics did so act.

Alas for human liability to err! We thought that all this was settled, but we were mistaken, and new experiments and new observations are imperatively needed, if, indeed, anything more concerning the intracranial circulation and other physiological changes during sleep and allied states of unconsciousness can ever be determined.

M. Vulpian's thorough and seemingly exhaustive researches on the physiology and pathology of the vaso-motor system have been fruitful in important results. Called in 1873 to the chair of experimental and comparative physiology, rendered vacant by the resignation of Brown-Séquard, he delivered a brilliant course of lectures on the vaso-motor system, which have been recently published in two volumes. Whatever merit may be attached to his former work, published in 1866, Leçons sur la Physiologie générale et comparée du Système nerveux — a work which has deservedly become classical — is, we think, eclipsed by this recent work of M. Vulpian.

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[1] North British Review, June, 1868.

[2] The older theory, which ascribes the actions of hypnotics to modifications in the nutrition, or molecular grouping of the cells, is the more probable view. Binz "concludes an article on the officinal sleep-producing substances (Archives of Experimental Pathology) by saying that these agents possess the power of producing a kind of coagulation of the substance of the cerebral cortex. Morphia, chloral, ether, and chloroform possess a strong affinity for the substance of the coxtex of the brain in man; and when they are introduced into the blood they enter into combination with the cerebral substance, opposing or impeding the disintegration of the living substance, and thus rendering it unfit to discharge its functions." Ranke has performed experiments which go far to prove the coagulating power of anæsthetics and narcotics on nerve substance and on muscles. See Lancet, American edition, 1878, page 94. See also Appendix to Herbert Spencer's Principles of Psychology, vol. i.

After investigating the *rôle* of the sympathetic in various functional nervous diseases, where too important a part seems to have been assigned to the vaso-motors of the brain and spinal cord, — *reflex paralysis*, the mechanism of whose production, he thinks, is altogether different from that taught by Brown-Séquard ;[1] *hysteria*, the motility of whose phenomena is the expression of real modifications of the elements of the cortical substance of the nerve centres, not appreciable to gross or even microscopic vision, and easily reparable ; *tetanus*, *hydrophobia*, where, whatever the morbid erethism of the bulbo-spinal centres, there is no constant vascular lesion, and where, to account for the frightful manifestations, we must again resort to the vague term "molecular modifications," inappreciable, it is true, but real ; *epilepsy*, where, again, Brown-Séquard's elaborate theories of vaso-motor action are found inadequate to explain the principal phenomena of the attack,[2] — M. Vulpian devotes part of a long chapter (Dix-Huitième Leçon) to the consideration of the physiology of sleep and the theory of cerebral anæmia. The question which he proposes for discussion is the following: "Whether the minute vessels of the encephalon undergo constant modifications in size and in contents in correspondence with the activity or want of activity of the brain ; if the blood-vessels are relatively full when the hemispheres are working, and relatively empty when these centres are in a state of repose." There are two ways of reaching a solution of this question : one is by observations of the encephalon during natural sleep ; the other by experiments made with hypnotic agents, and observing the results, a portion of the skull of an animal having previously been removed. M. Vulpian has performed numerous experiments which go to show that the profession has been too hasty in adopting the conclusions of Durham, Hammond, and others pursuing a similar line of investigation. It is quite true that the observations of these experimental physiologists were correct ; the error was in concluding that, because in certain instances the arterioles were found contracted and the brain pale and sunken during sleep, therefore the anæmic condition was the procuring cause of sleep. Vulpian admits that in ordinary sleep less blood circulates in the cerebral centres than when awake, but this relative anæmia is rather the concomitant, or result, than cause of the suspension of cerebral activity. "I am compelled to believe that during the first moments of sleep there is a degree, more or less marked, of encephalic congestion analogous to the congestion of the face and of the conjunctivæ which is observed at the same time. But in all probability, the respiration soon becoming calmer, more regular, a little less frequent, the movements of the heart becoming a little slower and less energetic, the cerebral circulation must undergo a like modification, and the congestion of the onset will give place to a slight degree of relative anæmia. Perhaps, also, the vaso-motor apparatus, by reason of the relative functional repose of the cerebrum, takes on a slight predominance of action, having for consequence a state of feeble augmentation of the *tonus* of the different vessels of the organism, those of the encephalon included." [1]

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[1] Vulpian believes that material alterations in the nerve centre always exist in these cases of reflex paralysis, the result of peripheral irritation : "Ces modifications ne consistent évidemment pas en une destruction de matière ; il y a sans doute un simple dérangement moleculaire." Tome ii., page 99.

[2] Vulpian's theory here too is "*special modifications of the anatomical elements of the different parts of the encephalon, the result of special irritants, peripheral or central.*"

Among the objections to the *anæmia theory* is this one, forcibly stated by Vulpian: that in individuals suffering from *anæmia*, of whatever cause (hæmorrhages, chlorosis, cachexia), there is ordinarily a marked tendency to insomnia. If the theory of Durham were well founded, one ought, in these conditions, to find a disposition to somnolence. On the other hand, in states of plethora the tendency to sleep is often very conspicuous. It is so in general after a full meal. To talk about the replete blood-vessels of the stomach and intestines, after a repast, *deriving* blood from the encephalon seems nonsense when we remark the turgid countenance, the injected eyes, the throbbing temporals, of the sleeping gourmand.

Another objection to the theory is the fact that the results of ligation of the encephalic blood-vessels do not favor it. Vulpian, after numerous trials in this direction, declares that "it is impossible, in practicing graduated compression of the encephalic vessels, to produce sleep at any moment whatever of the experiment." Moreover, in animals faradization of the cephalic ends of the two cervical sympathetic nerves has repeatedly been practiced. "The result was some amount of cerebral anæmia [*un certain degré, assez faible relativement*] without the least manifestation of somnolence." [2]

It would seem that if there were any causal connection between excitation of the vaso-constrictor nerves of the encephalon and sleep, electrization of the sympathetic in the neck should cause somnolence; nothing like somnolence occurred in Vulpian's experiments.

How about the action of anæsthetics and hypnotics? Hammond's experiments with ether determined a decided pallor of the surface of the brain in animals on which he operated. Vulpian's experiments, many of which were made before his class, were not attended with any marked or constant modification of the blood-vessels in the brain, whether the inspection were made with the naked eye or with a lens.[3]

Other experiments, made with chloroform, equally failed to show any marked effect on the blood-vessels; "the cerebral anæmia, inconspicnous under etherization, is still less marked during the insensibility of chloroform."[1] As for *opium*, its effects on the little vessels of the pia mater appeared to be *nil.* The opium in solution was injected under the skin; in half an hour the animal was in a state of profound somnolence; "the vascularity of the cerebrum was not changed in any appreciable manner."

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[1] Appareil vaso-moteur, tome ii., page 154.

[2] Loc. cit., page 151.

[3] "When the dog is profoundly etherized, it is seen that the movements of the brain (respiratory and circulatory) are not notably different from what they were before the etherization. It is the same with the vessels of the pia mater." (Loc. cit., page 157.)

Other experiments were made with hydrate of chloral. Deep sleep resulted; the encephalon, denuded of a portion of its cranial covering, was inspected; no modifications in the condition of the vessels of the pia mater were discernible.

Vulpian's conclusions from his carefully conducted experiments is that sleep, natural and artificial, is a phenomenon essentially independent of the vaso-motor system and the state of the blood-vessels. The anatomical elements of the gray substance of certain parts of the encephalon have a *habit*, at certain times and under certain conditions, of *lapsing into a state of functional inactivity.* It is an "*engourdissement*," — a torpor. The vascular, cardiac, and other manifestations are only accessory; they may be concomitant or consecutive, but they do not play any essential *rôle* in the physiology of sleep.

It seems to me probable that this may be for some time to come the last word on the subject, and that neither *this* condition of the blood-vessels nor *that* condition is the physiological antecedent of sleep; that, in fact, we must seek for the cause of this periodical phenomenon, so essential to our well-being, so suggestive, moreover, of the essential *oneness* of the physical and psychological — body and mind — in that invisible world of molecules whose polarities, permutations, and combinations produce results that baffle intellect and imagination to comprehend, and make nature herself seem transcendental.[2]

It is evident that for a long time to come hypnotic agents must be given from empirical considerations solely; and not from any supposed knowledge of their *modus operandi.* Of course, it will be quite proper to indulge in any amount of reasonable speculation as to how the cerebral cells are affected by drugs, and it must be admitted that considering the unfathomable mysteries of the molecular world, of which we get some hints, we must not be surprised at any future revelation concerning them, just as Lord Beaconsfield says that we need not be surprised at anything which takes place under a republican form of government!

It is doubtless true that while chloral and soporifics generally do not act by shutting off in part the arterial blood current, yet since a certain amount of relative anæmia is generally an accompaniment of natural sleep, — a full supply of oxygenated blood being essential to active cerebration, — and since the *minimum* of cerebration (with arrest of those destructive changes which are the correlatives of states of consciousness) is hardly compatible with the *maximum* of arterial blood supply, measures tending to diminish the amount of blood circulating in the brain, such as cold to the head, and derivatives, are indicated in insomnia. These will often fail where, were the anæmia theory true, they should succeed. The causes of insomnia are very generally subjective, and no remedy is effective which does not include a radical change in the habits, modes of thought and feeling, and surroundings of the patient.

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[1] Loc. cit., page 158.

[2] "Obviously things must either be conceived as by nature passive or active; if passive, they can only be moved by superior powers, independent of them; if active, they possess in themselves the conditions of their activity. Thus, on one of two fundamental suppositions respecting the activity of objects rests every possible explanation we can frame of the mysteries around us." — G. H. Lewes, Aristotle, page 27.

RECENT PROGRESS IN SYPHILOLOGY.[1]

BY EDWARD WIGGLESWORTH, M. D.

The Pigmentary Syphiloderm. — Dr. I. E. Atkinson, in a paper[2] read at Saratoga, August 27, 1878, before the American Dermatological Association, gives the histories of three cases of this rare manifestation, and adds that "the resistance offered by this lesion to the influence of anti-syphilitic remedies undoubtedly affords their most efficient weapon to those who combat the doctrine of its syphilitic nature. It is, for example, argued that all syphilitic alterations, especially those of the earlier constitutional periods, are promptly antagonized by the administration of mercury, and that the hyperpigmentation under discussion, not being modified by this drug, cannot be a syphilitic manifestation. Such a conclusion is based upon incorrect ideas of the nature of the pigmentation. The pigmentary changes following the earliest syphilitic symptoms are always due to the preëxisting hyperæmia; their duration and intensity are usually proportioned to the duration and character of the hyperæmia, and they are principally deposited in the connective tissue of the corium, in the region of the vascular distribution. The *rationale* of pigmentation is too little known, but we do know that pigment disappears readily after the recession of a hyperæmia of short duration, while after an old eczema or chronic ulcer it may remain for years. Why this is so is not known. It is a matter of universal clinical experience that the pigmentations following the early syphilitic eruptions are but little disposed to become permanent, and are readily reabsorbed. With the pigment substance of the epidermis, on the contrary, the case is different. Here the hyperpigmentation may readily occur quite independently of hyperæmia, and is due to an increase of the melarin, the physiological pigment of the skin.

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[1] Concluded from page 796.

[2] Chicago Medical Journal and Examiner, October, 1878.

"It is a matter of general experience that the non-vascular hyperpigmentations are provokingly obstinate and beyond the reach of internal medication. No one can explain why the different cachexiæ, or why uterine disorder should induce a hyperpigmentation in the rete Malpighii. There is no reason why the syphilitic dyscrasia, as distinct from any cachectic condition, may not equally evoke similar pigmentary changes, and with the light thrown upon the subject from time to time by corroborative cases, I have no hesitation in saying that it does evoke them, and venture to suggest that they may be amenable to the same therapeutic agencies."

Dr. G. H. Fox considers[1] this pigmentation as vitiliginous and of slight importance; notes its occurrence upon males as well as females, and that it may appear elsewhere than upon the neck; and supports the view that it is not a direct manifestation of syphilis, like ordinary syphilodermata, but a non-specific affection of the skin occurring on the site of and as a sequel to a syphilitic eruption, and that as a sequela it is uninfluenced by mercury, independent of, although the result of, syphilis, and in time disappears. In an excellent summary he adds that the white spots are not so by contrast, but by actual loss of pigment; that remains of the preëxisting lesions may sometimes be observed as dark central spots; and that the hyperpigmentation around the spots is of secondary importance, though often the most striking feature of the affection.

Syphilitic Pneumonia. — Uncomplicated cases of distinctly syphilitic pneumonia are rare. Sacharjin reports[2] two such, and summarizes the diagnostic peculiarities of this disease as distinguished from those of phthisis occurring in syphilitic or non-syphilitic persons. As means of differential diagnosis he cites: (1.) The characteristic anamnesis. (2.) The strength of the patient's constitution, since weakly persons of phthisical tendencies succumb too early to manifest the late syphilitic affections to which syphilitic pneumonia belongs. (3.) The objective evidence of consolidation of the lungs, dullness on percussion, diminished vibration on palpation, and abnormal respiration on auscultation; the marked sinking of the supra and infra clavicular regions; the difficulty in breathing, and the oppression and pain in the chest. (4.) The absence of hæmoptysis, cough, expectoration, and râles. (5.) The non-existence of fever. (6.) The rapid improvement under the use of mercury or iodide of potassium.

These signs can of course be no longer clearly distinct if the original syphilitic pneumonia has not been recognized, and has, while unheeded, become complicated by inflammation of the bronchi or pleura, or by acute or chronic non-syphilitic pneumonia.

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[1] American Journal of the Medical Sciences, April, 1878.

[2] Berliner klinische Wochenschrift, January 21, 1878.

Syphilitic Phthisis. — The tabulation by Dr. Robinson[1] of such cases of syphilis occurring in military hospitals as evinced subsequently signs of pulmonary disease has shown two forms under which syphilis of the lung may present itself: one affecting the base, and very rare; the other, more common, and limited to one or both apices. The characteristic signs of this lesion are, upon auscultation, loud, harsh inspiration with a similar expiratory murmur, vocal resonance being more or less distinct. Dr. R. E. Thompson,[2] in connection with the fact educed by the Pathological Society's recent debate upon visceral syphilis, namely, that apart from gummata and tubercular phthisis syphilitic disease of the lung is of rare occurrence in the post-mortem room, and consequently the recognition by pathologists of the morbid effects of syphilis in the production of pulmonary disease is very difficult, has furnished the clinical results of the observation of such cases for several years past in the Brompton Hospital for Lung Diseases, and, proceeding from the opposite point of view to that of Dr. Robinson, arrives at similar conclusions. He regards the pathological conditions of the syphilitic lesion as a generally diffused alteration of the lymphatics, affecting primarily the alveolar tracts, and extending along the bronchial vessels, so as to produce very considerable peri-bronchial thickening and stiffening, with consequent dyspnœa. His characteristic sign is the percussion note, which, accompanied by resisting palpation and being markedly dull under the the clavicle and supra-clavicular space, regains its natural note below after shading off from above downward, gradually, in fact almost imperceptibly, — a symptom peculiar, he holds, to the lesion of syphilis.

Syphilitic Disease of Bone.[3] — A girl aged seventeen, of syphilitic parents, noticed a small swelling on the lower and outer side of her left leg just above the ankle-joint, which was unaffected. This increased, with pain at night, and in a year had become a clearly defined enlargement of the lower end of the shaft of the tibia and fibula. Around their whole circumference four centimetres above the joint, the skin and soft tissues were natural in appearance, though indurated. No other bones were affected. Those parts of bone which are not covered with periosteum remain free from disease in these cases. Parts of bone covered by synovial membrane or articular cartilage are never primarily implicated in the abnormal growth under consideration. So also with cartilage, except when covered with perichondrium. The disease begins in the periosteum, and is amenable to treatment prior to the formation of true osseous structure. In this case amputation was performed for intercurrent traumatic injury, and the diseased ends of bone showed no osteitis, but a uniform layer of new bone outside the tela ossea of the original bones. This periosteal growth occurs in inherited syphilis at the extremities of the long bones, because in growing bones the most active changes are there going on, just as increased action at the site of a fracture causes callus by augmentation of growth. Syphilitic changes differ thus from tuberculous ones, which originate in alterations in the growth of the round cells contained in the medullary tissue. In tuberculous disease, also, the thermometer could not be relied upon, but with syphilitic changes the temperature regularly rose to 101° or 102° F. at night, and fell to 99° F. towards morning (in spite of mercury or iodide of potassium), unless when twelve grains of quinine with one eighth of a grain of calabar bean were given, when the rise was checked for several days at a time. Such growths may also, by obliteration of blood-vessels, cause necrosis of bone tissues.

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[1] Lancet, May 5, 1877.

[2] Lancet, September 15, 1877.

[3] C. Macnamara, in Lancet, October 20, 1877.

Syphilitic Insanity. — In a lecture upon insanity,[1] Dr. E. C. Seguin speaks of coma, mania, melancholia, or a false general paralysis as being among the results of syphilis, and recommends in some cases of mania or melancholia, where there is no family predisposition to insanity, the administration of large doses of iodide of potassium and the employment of mercury. The general paralysis, so called, of syphilitics is peculiar in character. We do not obtain the regular gradations and stages of the true disease. The moral perversion which is peculiar to general paralysis is absent; neither do we see the pure exalted notions. The fibrillary tremors that are so well marked in general paralysis are not present here. The articulation is more mumbling in character. We likewise are apt to have a great deal of actual paralysis of cranial nerves or body in these cases. In true general paralysis after attacks of hemiplegia the patient regains his full strength, whereas this is not apt to occur in the syphilitic variety. The following table will perhaps show clearly the main differences: —

SYPHILITIC GENERAL PARALYSIS.	TRUE GENERAL PARALYSIS.
Absent.	Prodromic stage.
Rare or absent.	Exalted notions, numerous and varied, and relatively exalted according to the position in life.
Speech is thick.	Speech is tremulous and jerky.
Absent as a rule.	Tremor of hands and lips.
Paresis or actual paralysis.	Preservation of strength.
Apt to be open or wide.	Pupils are apt to be contracted.
Palsy of the third or of other cranial nerves.	None.
Headache nocturnal.	None.
More serious aphasic attacks.	Transient aphasic attacks.
Progressive, except under treatment.	Spontaneous remissions.

Some other differences between the two conditions are as follows:

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[1] Hospital Gazette and Archives of Clinical Surgery, September 12, 1878.

The patient with syphilis has none of the cravings or abnormal appetites of the other; the latter feels an impulse to get drunk, or to have an excess of coition. The tendency to excessive coition is absent in syphilitic paralysis, and indeed there is marked loss of the virile power. The temperature changes are also absent in syphilis of the brain. The rise in temperature in general paralysis of the insane is very great, often reaching to 103° F. in exacerbations. There is no rise of temperature in syphilis of the brain, except, perhaps, when the patient has hemiplegia from a large lesion.

The most important point is that in syphilis there is a paralysis; in general paralysis there is irritation and incoördination without true paralysis.

Syphilitic Coma. — Syphilitic coma, described but lately by Erlenmeyer, is only interesting clinically. The patient suddenly becomes unconscious; there is no definite paralysis; the pupils are open; he receives food and swallows. The condition is not unlike that of an extremely drunken man.

Erlenmeyer relates a case of an officer who was found in bed in a comatose state, and remained so for a length of time. A syphilitic history was determined; he was treated in accordance with that view of the case by inunctions of mercury and by iodide of potassium internally, and was cured. There is nothing yet known as to the pathology of these cases.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

April 14, 1877. *Case of Excessive Salivation during Two Successive Pregnancies; Face Presentation; First Position; Rotation effected by Forceps; Child Alive.* — Dr. Richardson read the case, which was published in the Journal, vol. xcvii., page 29.

Dr. Stedman asked if traction were employed in the manœuvre.

Dr. Richardson replied that rotation only was first performed, and subsequently extraction.

Dr. Sinclair said that he had had two cases of salivation which terminated without interference. In one of these the salivation, which began at about the sixth month, was so profuse that the patient used a bed sheet for a handkerchief. The mouth was full of aphthæ. There was diarrhœa towards the close of gestation. The patient died a few weeks after labor.

Dr. Arnold also reported a case of salivation, which began in the early weeks of pregnancy. The discharge of saliva was excessive, but not to the degree in the case reported by Dr. Richardson. The case passed out of his hands, and he afterwards learned that the woman procured abortion for the relief of the symptom.

Dr. Draper mentioned the case of a patient under his care, who, in her third pregnancy, at four and a half months, was salivating as profusely as described by Dr. Richardson in the case reported by him. The symptom was speedily and permanently controlled by large and frequent doses of bromide of potassium, — fifteen grains hourly till ninety were taken. Salivation had occurred early in her previous pregnancies, and had continued during the whole term in one case, and till the eighth month in the other. In these instances she was under the care of Dr. Whittier, who obtained most benefit from the use of slippery elm.

Dr. Richardson said that in the case reported the patient was relieved somewhat, during a week, by fifteen grains of chloral hydrate repeated every two hours; after this the salivation became as severe as ever, and the chloral had no effect. There was no odor about the mouth.

Albuminuria at the Seventh Month of Pregnancy; Severe Gastralgia; Induced Labor; Recovery. — Dr. Abbot read the case.

Gastralgia preceding Convulsions. — Dr. Hosmer mentioned a case in which, in the latter stage of the first pregnancy, violent gastralgia occurred, followed in a few hours by convulsions, which terminated fatally. He had seen the same connection of symptoms repeatedly, as well as in the analogous condition in scarlet fever, and so often that the occurrence of decided gastralgia leads him to examine the condition of the urine.

Dr. Bixby reported the following cases: —

A Case of Pregnancy following Ovariotomy in a Subject in whom a former Pregnancy and Parturition were complicated with the Tumor. — Mrs. K., aged twenty-eight, who had menstruated regularly but scantily since the twelfth year, and had been married seven years without offspring, consulted me for her sterility. She was a person of medium stature, with an unusually broad pelvis; the abdomen was covered with dense layers of adipose tissue. She had ceased to menstruate eight days before. Examination showed the uterus to be extremely anteverted, without any evidence of disease. Believing the sterility to be due to a displacement which was occasioned and maintained by pressure from an enormously fat and pendulous abdomen, I temporarily replaced the organ, but, as the principal treatment, ordered a properly fitting abdominal supporter. She was also advised to abstain from fat-producing food. As the catamenia did not return at the usual time, and still were absent at the third month, by the aid of this and other signs I thought I was safe in proving her pregnant. My diagnosis was subsequently confirmed, as reported by Dr. Reynolds.

I have often had occasion during ovariotomy upon patients with unusually fat abdomens to satisfy myself of the validity of the fact that the pressure upon the uterus causing and maintaining both forward and backward displacement is due to the accumulation of fat upon the omentum and intestines, as well as upon the abdominal walls. This would seem to prove conclusively the comparative inutility of the treatment of uterine displacements in fat subjects by internal supports alone.

Malignant Disease of the Uterus. — Mrs. K., aged fifty-four, mother of four children, has repeatedly suffered from severe hæmorrhages. Passed the climacteric at fifty. Two years before, she commenced to suffer from profuse leucorrhœa, at times sanious, and latterly decidedly purulent. Emaciation had been very rapid during the past year; at no stage has she suffered from pain. Examination showed the inguinal glands enlarged; cervix uteri indurated, but intact; labia thin; os patulous and filled with a soft, grayish-white, curdy substance; movements of the organ limited; discharge profuse, fœtid, and purulent.

Diagnosis, malignant disease. Treatment palliative. Two weeks later I was summoned to see the patient at her home. I found her in bed, exceedingly feeble from the effects of a powerful cathartic taken of her own accord to relieve the pressure and tenesmus caused by the enlarged uterus. The discharge continued very profuse; was purulent and highly offensive. Dr. D. H. Storer saw the patient, and agreed with me in regard to the diagnosis and prognosis. Death took place ten days later, apparently from septicæmia.

At the autopsy the uterus was found to be about five inches in length. Its entire fundus was degenerated, cheesy, and soft as a curd. The adhesions were principally about the cervix. The fundus was free. Dr. Fitz, to whom the specimen was submitted, was unable to form a positive opinion as to the nature of the disease; it seemed like sarcoma, but was possibly a mixed case. The inner surface at the fundus presented a ragged aspect.

Dr. Fifield quoted the remarks of Aveling, in the last *Obstetrical Journal*, upon the influence upon conception of position in coitus.

Dr. Abbot mentioned a novel and effectual expedient adopted by a patient with anteversion. She was a thin person, and contrived for herself an effectual supporter by placing above the pubes an India-rubber ball, which was kept in place by a snug bandage.

Large Abdomen in the New-Born Child. — Dr. Hodgdon reported the further history of the patient exhibited by him at the meeting in February. It did well till at the age of two months, when it died of pneumonia. An autopsy was made by Dr. Fitz, who found a thickened and distended bladder and ureters. The detailed result of the examination by Dr. Fitz will appear among the reports of the Boston Society for Medical Improvement, to be published hereafter.

Cases of Scarlatina, complicated, one with Thoracic Inflammations, the other with Hæmorrhage, probably from the Fauces. — Dr. Hosmer reported the cases. The first case was that of a female aged six, born of a primipara, by a breech presentation. I was called to see her January 31, 1877, on the seventh day of a scarlet fever, of which the primary symptoms had been of very moderate intensity, the rash not having been recognized until the fourth day. Advice was sought for a rather severe rheumatic affection which had invaded the wrists, and was then and afterwards limited to those two joints. The next day having brought some relief, no visit was made until the tenth day, when the general appearance of the child, of which the pale, puffed, and anxious countenance was a conspicuous part, showed at once some grave change in the condition of the case. During the night of the tenth day there came on suddenly restlessness, fever, pain in left chest, dyspnœa, and sleeplessness; all this without rigor then or at any subsequent stage. A well-marked double friction sound heard over the heart concluded the evidence of pericarditis, as I saw the case on the tenth day. There was no albuminuria, although the condition of the face at first suggested that symptom.

On the twelfth day of the scarlatina, and the fifth of the pericarditis, there came an attack of pneumonia, beginning in the central portion of the left lung, and extending upwards and forwards to the subclavicular region. At one time the hepatization was quite extensive, and at one point in the back could be obtained that increased resonance under percussion which consolidated lung may give when covered by a layer of healthy pulmonary tissue of the proper thickness.

February 7th, the fourteenth day of the scarlet fever, the seventh of the pericarditis, and the third of the pneumonia, the figures in the case were: temperature 100° F.; pulse 136; respiration 54. Two days later, they were as follows: temperature 98.4°; pulse 108; respiration 36. This was the starting point of convalescence, which from this time was uninterrupted as far as related to the thoracic inflammations. At the usual period in such cases there came a renal affection, with the ordinary symptoms, — albuminuria, œdema, anæmia, etc. But this portion of the case was not severe, although a little tedious in its rate of progress. The child made a complete recovery.

While the foregoing case was under observation it became evident that a younger sister, aged two years, was suffering from scarlatinal influence, although there had been no distinct explosion of the usual primary symptoms.

On the night of February 23d, there came a sudden change, and I was called with the urgent message that the child was attacked with the croup. I found no symptoms at all pointing towards the larynx; the whole trouble was in the pharynx and posterior nares, — moderate swelling, redness, dysphagia, and without visible exudation. Cervical glands were slightly swollen. From this time there was an amount of discomfort, and a degree of general sickness which were quite out of proportion to anything that could be discovered in the local condition of the throat.

March 13th there came a profuse hæmorrhage, more than half a pint, from the mouth. The blood was dark in color, and at one time so abundant in its flow as partially to asphyxiate the child. At the end of three hours there was no more bleeding. As to the source of this blood, I am sure it did not come from the lungs; I think it did come from the pharynx; possibly from a deep-looking excavation, three eighths of an inch in diameter, situated between the two pillars, just above the left tonsil. The impression made upon the child by this large loss of blood was serious and unmistakable, but did not prevent it from making a very good recovery in the end.

Dr. Sinclair remarked that he had observed the subsidence of pneumonia between the sixth and seventh days in a child.

Dr. Hosmer said that Dr. A. Hewson, of Philadelphia, when advocating the dry-earth treatment by external application in scarlet fever, declared that he had known it to effect a reduction of ten degrees in the temperature in the course of the day, from morning to night. Upon being asked what degree was the starting-point, he answered 115°.

TYSON'S CELL DOCTRINE.[1]

It is a very good sign of the times that another edition of Dr. Tyson's excellent work should have been called for, as it implies a good deal of interest among students in theoretical studies which, if not of practical application, are at least a part of a good education. The observations on cells during the past eight years are of enough importance to demand notice in a book with the above title. Dr. Tyson has done his work well. He has not been content to tack on some additional pages, but has thoroughly revised the whole book, rewriting some parts of it, and has much enlarged the bibliography. Among the most important of recent contributions to this subject are undoubtedly those of Klein on the structure of the nucleus. We are glad to find them clearly stated, and also that Dr. Tyson has seen fit to introduce one of Klein's plates. The chapter giving the views of the author is very satisfactory reading. We take delight in the clearness with which it is shown that the cell wall, when it exists, is a secondary, if not an accidental, product. We regret only that the author did not, if even in a foot-note, do as much for the artificial membranes of red blood corpuscles. We might be disposed to differ from the author's conclusion concerning the intercellular substance, which he believes to be a modification of the outer part of the cell, not that we think this impossible, but rather doubtful; and having said this our stock of criticism is at an end. We hope that the book will have an extensive circulation.

T. D.

ANNUS MEDICUS 1878.

With the present number of the Journal our year 1878 is brought to a close; before taking a final leave of the departing, a hasty glance at what he has brought to us and what he has taken from us will not be devoid of interest. Without being marked by extraordinary discoveries in medicine or the sciences immediately allied thereto, it has still been a year of steady and general advancement and development in all branches of practical medicine and of the medical sciences. For exact details in support of such an assertion we do not know where to refer the curious reader with greater confidence than to the reports on progress and the medical notes in our own columns, which are at once full, succinct, and catholic. A few of the more prominent movements and realizations of 1878 will bear repetition.

In making up his epitaph, the first question to be put to the record of the past year is, What has he done for the elevation of the standard of medical education in the United States especially? We give the coming years fair warning that it will be impossible to furnish them with satisfactory obituaries unless their characters withstand well this fundamental test.

As much has been effected, perhaps, towards improving the standard of medical education in the past twelve months as could have been reasonably expected, though not enough, fortunately, to still the just and earnest impatience of the enthusiastic agitator. Harvard University is steadily advancing at the front, quietly content with success and a consciousness that she deserves it, whether recognized or not. A preliminary examination has been the latest step.

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[1] *The Cell Doctrine: Its History and Present State.* By James Tyson, M. D. Second Edition. Philadelphia: Lindsay and Blakiston. 1878.

A preliminary medico-scientific course of three years has been opened by the Johns Hopkins University, terminating in a degree of B. M., to be followed probably by a four years' medical course for the degree of M. D. The length of time, seven years, is ample, and the details well laid out to produce thoroughness. By some of those who have regarded the resources and opportunities of this university with the greatest respect, the fear has been expressed that the preliminary course might be narrowing, and the degree of M. B. liable to abuse, a fear not shared by the trustees and officers of the university, and time may show these latter to be right. A full three years' course has been adopted in Philadelphia, in New York, and by one or two schools at the West; and a not altogether discouraging sign of the tendency of the day is the pretense of virtue even in some quarters where they have it not. In Great Britain the different licensing bodies have been involved in an evolution out of which the fittest has not yet emerged, and there comes from England a lament over too multiplied medical schools with which we sympathise. France has at last appointed three professors of specialties in the Paris School, and has fortified medical education in the provinces notably by the addition of the schools at Lyons and Bordeaux. The German government is rapidly making of Strasbourg a great medical and scientific centre.

From medical education in general we pass naturally to that of women, affecting which we have to record two important steps.

The University of London has thrown open all its degrees of every kind, medical included, to women under exactly the same condition as to men; and University College, London, has agreed to open the whole of its classes, *except* those in medicine, to women. After some years of experience in opening all courses, public and private, to women, the medical faculty of Vienna have felt compelled to exclude them entirely in future from everything except the lectures on obstetrics and diseases of women of Dr. Gustav Brown. These two steps, though apparently in opposite directions, are really harmonious and in accord with the present attitude of Harvard University, namely, that she will undertake the medical education of women if those who desire it will furnish the funds for a separate education. It gives us pleasure to enter to the credit of the year the adoption of the metric system of weights and measures by the United States marine hospital service; its strong recommendation to the profession by the American Medical Association at its annual meeting; the vote of the Pennsylvania State Medical Society to use it in all communications in which reference to weights and measures is made; the adoption of its use in the pages of the *Chicago Medical Journal.* The year has not been without its calamities, and must consent to have its memory associated with one of the most extended and distressing famines in Northern China of which history offers any notice; we spare the reader any statistics of deaths, which were but a release from irremediable sufferings. It has also brought to us a visitation of yellow fever unequaled in its ravages, and, — strange contrast! — our affliction was spread and intensified by the very facilities for rapid transit whose absence proved so fatal in China. This epidemic of yellow fever will be remembered as having extended over an unprecedented area, without discrimination as to age, race, color, or locality; as having exacted 20,000 victims, of whom at least one hundred were physicians; and as having cost the country nearly $200,000,000. Let us hope that our successors may also think of the year in connection with an appropriation of $50,000 by Congress, and the beginning of such an investigation into the disease as shall fix upon the present epidemic the unenviable notoriety of being the greatest and the last. We still cherish a hope; are those who come after us to have more? Even so enormous an evil has attendant good; the past six months have engendered a recognition of the importance of a national board of health, and an impulse toward its establishment which bids fair to result another year in an accomplished fact. Should its head be a member of the Cabinet? is already a question. May the *board* at least be kept out of politics!

We notice with much satisfaction the birth of boards of health in the States of Rhode Island and Connecticut; others may have escaped our notice. Then there is the advent of several new journals, both at home and abroad, among which are to be mentioned *The Journal of Physiology*, edited conjointly and published simultaneously in the United States and England; *Brain*, a quarterly journal of neurology in England; a new *National Medical Review*, published in Washington; *The Philadelphia Druggist and Chemist;* and a new medical periodical in Germany, *Archiv für Geschichte der Medicin und Medicinische Geographie.* Our table of genesis might be completed by an enumeration of various new associations, but the length of the titles and the fear of omitting a large number of them restrain us. We are not ashamed, however, of the local pride which betrays us into a parsimonious mention of the organization and first annual meeting of the Massachusetts Medico-Legal Society; of the good work given by it to the public on that occasion, and the assurance thus afforded of the satisfactory working of the new inquest law, as far as may lie with our profession; of the installation of the Massachusetts Library Association in a new building of its own, containing comforts and conveniences which will make the compilation and the perusal of the *anni medici* of our successors a delight. Worthy of exceptional mention is the creation by the general government of a national quarantine board with a central bureau, to which we are indebted for the valuable sanitary reports which now come to us every week from all parts of the world. Washington has also given us a first fasciculus of the contemplated index to the National Medical Library, which only makes us the more instant with Congress to provide for the completion of this great and invaluable labor.

The old societies and associations have held their usual meetings. These sometimes produce valuable work, and always serve to refresh hard workers, and to bring together congenial spirits. Paris has had an International Congress of Hygiene. The annual meeting of the American Medical Association at Buffalo offered unusual interest, and from that of the Public Health Association at Richmond much — perhaps too much — was expected.

The year shall not leave us without carrying with it another tribute to Dr. H. J. Bigelow's simple discovery — for such we insist upon calling it — of the tolerance by the bladder of protracted manipulation with a smooth instrument, and the consequent introduction of the operation for rapid lithotrity, now called litholapaxy. We shall so far borrow from our reports on progress as to mention the attention given during the year to metalloscopy and metallotherapy; the interesting investigations of Dr. Gowers, of London, and others, into the minute pathology of hydrophobia; and the creditable experiments of Drs. Garland and Rotch, of Boston, in regard to the form and position of pleuritic and pericardial effusions. A more extended and careful survey of the field will show that everywhere earnest laborers are at hand to take the places of those who have completed their tasks.

Though our space is scant for a too extended necrology, we would willingly devote a little of it to the demise of the delusion of homœopathy, from which a sad wail comes up of a want of faith among the old, and a want of neophytes among the young; its pulse is very low as we go to press.

Among the number of those who sleep from their labors we find this year, as usual, more and better men than we could wish.

In this country we have lost Dr. L. P. Yandell, of Louisville, Ky., at the age of seventy-three years, for fifty years one of the most widely known practitioners of the West; Dr. J. E. Tyler, of Boston, former superintendent of the McLean Asylum for the Insane, aged fifty-eight; Francis Gurney Smith, Jr., M. D., of Philadelphia, professor of institutes of medicine in the University of Pennsylvania, aged sixty-one; E. R. Peaslee, M. D., LL. D., of New York, surgeon to the New York Woman's Hospital, aged sixty-four; Dr. George H. Gay, surgeon to the Massachusetts General Hospital, aged fifty-five; Dr. W. L. Atlee, of Philadelphia, whose name will be long remembered in connection with ovariotomy, aged seventy; Prof. Eli Geddings, M. D., of Charleston, S. C., aged eighty; Dr. Wm. B. Morris, of Charlestown, Mass., aged fifty-two. Among those of riper years, in addition to Professor Geddings, we may mention the death of Josiah Bartlett, M. D., of Concord, Mass., aged eighty-one, a worthy successor to a worthy father; of Samuel Hart, M. D., of Brooklyn, L. I., aged eighty-two; of Dr. B. R. Robson, of New York, aged ninety-three; of Dr. Edward Warren, of Boston, the youngest son of Dr. John Warren, aged seventy-three. Turning abroad, we have to lament Claude Bernard, the distinguished physiologist, who died in Paris in his sixty-fifth year; Leon Voillemier, Paris, aged sixty-eight, a distinguished French surgeon, who first described accurately, in 1842, the fracture of the lower end of the radius known as Colles; Caventon, aged eighty-two, a well-known French chemist, who, with others, discovered strychnia, brucia, and other alkaloids; Regnault, the chemist; Becquerel, the physicist; Professor Hirtz, of Nancy; in Germany, Professor Bartels, of Kiel, and Professor Dietl, of Krakow; in Austria, Professor Rokitansky; in Italy, Professor Ghinozzi, of Florence. When we turn to Great Britain there are Dr. William Stokes, F. R. S., of Dublin, author of Diseases of the Heart and Aorta, deceased in his seventy-sixth year; Dr. Fleetwood Churchill, of Dublin, at Tyrone, in his seventieth year, whose name is familiar to us all in connection with obstetrics and diseases of women; James Blundell, M. D., London, in his eighty-seventh year, a famous and eccentric practitioner in London fifty years ago; and Henry Jephson, M. D., of Leamington, who passed away in his eightieth year, and whose memory will be dear to all professional brethren as that of a provincial practitioner who thirty years ago earned an income of £24,000, but they should not forget that health was sacrificed to its acquisition.

This mortuary list could, we regret to say, be much prolonged, but we have had space for only some of death's shining marks in different countries. With this we take leave of the year 1878. We wish our readers a very happy New Year, and we bid him take heed to his ways, for have we not the microphone to make audible the lightest step, and are we not promised the electric light by which the hidden things shall be revealed?

MEDICAL NOTES.

NEW YORK.

— The fifth anniversary of the Training School for Nurses, in connection with Bellevue Hospital, was celebrated December 4th. The building occupied as the Home is in East Twenty-Sixth Street, near the hospital, and has been fitted up very completely for the accommodation of nearly seventy nurses. The exercises were held in the dining-room, and the address to the graduates was made by Prof. Wm. H. Van Buren; while Mrs. Alexander Hamilton, the president of the institution, presented the diplomas, twenty in number. From the annual report, read on this occasion, the following information was gathered: The school was opened in May, 1873, with six nurses and a superintendent, who were in charge of six wards of Bellevue Hospital, containing forty-three patients. Now there are fourteen wards, under the charge of sixty regular nurses, and 1959 patients have been cared for by them this year. During a portion of the year five nurses have been acting under the direction of the superintendent of the female branch of the city mission, and one of these ladies attended 131 cases in six months, while the total number of visits made by the five was 2472. They are paid by private subscription, and it is hoped that in time each church in the city will have such a nurse in its employ to take care, under medical advice, of its sick poor. Twenty-four young ladies have been admitted to the training school since January 1st, and are now qualifying themselves for the position of nurse. Fifteen of the number had not previously supported themselves, while the others were teachers, or had been engaged in literary works. Graduates find no difficulty in obtaining employment either in hospitals or private families.

— Dr. Andrew Clark, F. R. C. P., the distinguished lecturer on clinical medicine and diseases of the lungs in the London Hospital, who was recently sent out on a special mission to accompany the Princess Louise on her voyage across the Atlantic, received a very warm welcome during his short visit in New York. He arrived on Saturday, December 7th, and left for England early on the morning of the 11th; but, notwithstanding the briefness of his stay, he accomplished as much as the emperor of Brazil would probably have done during the same time. He was intensely interested in all that he saw, and on one of his numerous visits to the public schools made an excellent address to the pupils. The day before he sailed he delivered a lecture on the pathological and clinical features of the various forms of phthisis, at the Bellevue College, before a crowded audience of the practitioners and medical students of the city, and it was agreed by all that it was a model of conciseness, style, and appropriateness of expression. As Prof. James R. Wood stated, in some complimentary remarks at the close of the lecture, never before had the subject been so clearly and admirably presented in New York. The various points touched upon were illustrated by a large number of exquisite plates in water-color, which were painted directly from pathological specimens removed from cases which had been under Dr. Clark's care. During his sojourn in the city he was the guest of Dr. Sayre, and the evening before his departure the latter gentleman gave a reception to a limited number of the profession in his honor. Dr. Clark won golden opinions from all who saw him, and his popularity as a physician is justly great.

— The New York College of Pharmacy gave a sort of house-warming on the evening of December 10th, and on this occasion a congratulatory address was delivered by the President, Mr. Ewen McIntyre, and the history of the college from its organization in 1829 was read by Professor C. F. Chandler. The structure now occupied by it, which is located on Twenty-Third Street, was formerly a church, but has been altered to suit the purposes of the institution; and it is the first building that it has ever had of its own.

MASSACHUSETTS GENERAL HOSPITAL.

SURGICAL CASES OF DR. WARREN.

Twelve Cases of Disease of the Breast and Axilla operated upon with Antiseptic Precautions. — The following cases include all that were performed by Dr. Warren during a spring and summer service with the exception of one, a woman sixty-nine years of age, who succumbed under a mild erysipelas following a plastic operation for a small cancer of the lower lid, removed at the same time as the diseased breast. It was interesting to note that the wound under the Lister dressing showed no sign of disturbance during the attack, and at the time of death had healed by first intention excepting the small opening made by the drainage tube. In several cases the dressing was applied as a swathe round the chest, but it was found that this method had considerable disadvantages; the wound was brought too near the edge of the dressing, and, if it extended into the axilla, could not be covered properly. Even in favorable cases it was necessary to draw the edge of the dressing very tight, to prevent the entrance of air, producing undue pressure at certain points. This difficulty was overcome by bringing the arm to the side over the various layers of gauze, and packing the inequalities of surface with salicylic cotton, which was also applied over the arm and shoulder, the whole being held firm by a broad swathe round the arm and body, supported by a towel pinned, suspender fashion, over the shoulder. This formed a very secure dressing, insuring as perfect rest as possible on the thorax, and effectually excluding the air. In this series it will be seen there are two deaths, and two cases which survived an attack of erysipelas. An adequate explanation of these accidents seemed to offer itself in each case.

Case I. C. E. W., forty-seven years old, a married woman, had noticed the disease for about six months. It grew rapidly and presented quite a large tumor, the glands in the axilla being involved. It was freely movable, and there was plenty of integument to spare. The growth was removed in the usual way, the incision being continued into the axilla where a careful dissection removed all enlarged glands. When sewed up there were two long wounds, one occupying the mammary and the other the axillary region. Unfortunately, as the result showed, a drainage tube was placed in the axillary portion alone — this being thought sufficient to drain both wounds from its dependent position. There was some oozing of blood, and when the dressing was changed on the third day a large amount of dark-colored fluid was squeezed from the tube. On the fifth day the discharge, which in the mean time had collected in considerable quantity, had become offensive, and soon became purulent. The temperature remained high at the end of the week, and on the ninth day a chill occurred. This was repeated almost daily, and the characteristic temperature of pyæmia developed, the thermometer rising and falling several times during the twenty-four hours. The dressings were removed, the wound laid open and carefully drained, and a poultice was applied. Although it now appeared quite healthy the blood-poisoning continued, and the patient died on the twenty-fourth day. The cause of death was evidently inefficient drainage of a wound containing an unusually abundant secretion which the Lister dressing failed to keep from decomposing.

Case II. E. J. B., fifty-four years old, had noticed a lump in the breast but six weeks before for the first time. It was about the size of a silver dollar and not very hard. There were no glands in the axilla. The diseased breast was removed under antiseptic precautions, and was found to be typical cancer. The drainage tube extended nearly the whole length of the wound — which was about six inches long. It could hardly be said there was any traumatic fever in this case, the thermometer going above 99° F. only in the evening of the second day, and on that occasion did not reach 100° F. The wound healed by first intention, but a small sinus remained to mark the course of the drainage tube and did not heal for several weeks.

Case III. C. N., a German widow, sixty-seven years old, had first noticed the disease three years ago. It involved the whole breast and part of the axilla; at the junction of the mammary and axillary regions the skin was involved in the disease, and there was considerable inflammatory redness about it. The breast came away easily, but it required some careful dissection to reach all the axillary glands. The patient did well at first, but about the end of a week erysipelas appeared and continued for two weeks, running over the chest, back, and abdomen. Some sloughing of the connective tissue took place in consequence, and the wound gaped slightly at the point of exit of the drainage tube, but the patient left the hospital a month later with a small granulating surface at that point, and in good general condition. During the presence of the erysipelas a poultice was substituted for the antiseptic dressing.

Case IV. M. C., forty-nine years old, an American widow, had noticed a tumor of the breast nine months before. On entrance the growth was found to be nearly the size of a cocoa-nut, and at one point had ulcerated through the skin which was inflamed for some distance. The axillary glands were involved. As the tumor was movable and the skin abundant, it was decided to undertake an operation. The parts were poulticed for a day or two, and the patient kept in bed to allay the inflammation. The incisions made a wound nearly a foot in length. The dissection in the axilla was deep and difficult, and the axillary vein, being adherent to one mass, was divided and tied. The temperature of the first few days was high, but on the evening of the third day was but 102° F. It did not continue to fall, however, and on the sixth day a change of dressing disclosed an erysipelas. The Lister dressing was removed and carbolic cloths were substituted, the wound being washed twice a day. Quinine was given freely; the disease spread over the back and chest, the wound became foul, and on the thirteenth day a slight venous hemorrhage occurred; this was repeated twice, and on the fifteenth day the patient died. The temperature during the last few days was taken every two hours, and vacillated as in the other case. An examination of urine two days before death showed the presence of numerous casts.

CASE V. A. T., negress, fifty-nine years old, entered with a lump the size of a fist, of two years' standing. On removal it was found to be a cyst with a small nodule of cancer. The arm was placed at the side and included in the usual dressing, which was reinforced with large quantities of salicylic cotton. The wound healed by first intention, but a small granulating spot marked the tie of the tube at the end of a month, when the patient was discharged. Temperature was always below 101.5°.

CASE VI. P., aged fifty-two, entered with a tumor of left breast, about the size of an orange, of five years' standing. There were no enlarged glands in the axilla. As the spray apparatus was not in working order the usual Lister precautions were not taken. The wound was, however, carefully syringed out with carbolic acid (1 to 40 solution); after the stitches had been taken a tube was left in and carbolized compresses covered over with salicylic cotton were applied. Owing to oozing from the wound the dressing was renewed the same evening. The temperature did not rise above 99.5°; the wound healed by first intention, the tube being withdrawn gradually, and on the fourteenth day there was solid union everywhere.

CASE VII. M. E. M., thirty years old, had noticed a lump in right breast four months before entrance. It grew to the size of an egg. The breast was removed with antiseptic precautions. The temperature was that evening at its highest, namely, 100.2°. The wound healed by first intention. The tube was removed on the seventh day. A few days later a small collection of pus formed in the track of the tube and was evacuated by a puncture with the knife. Healing went on after this uninterruptedly, and the patient was discharged in a little over three weeks.

CASE VIII. C. M., thirty-five years old, entered for a fractured thigh, and when this had united desired an operation for the removal of a scirrhus of both breasts. One of seven years' duration, the other a small nodule of five months' standing. The right breast was removed entirely, and also a large number of small glands in the axilla, the dissection extending up to the clavicle. Two tubes were placed in the wound, one for the axilla, the other for the breast. A small tube was also placed in the incision made for the removal of the nodule in the right breast. The wounds healed by first intention except in the track of the tubes and a small spot in the right breast; which was still open on the eleventh day, when Lister treatment was no longer continued.

CASE IX. S. E. A., forty-eight years old, pale and thin, entered with a cysto-sarcoma of the left breast of nine months' duration. There was no disease in the axilla. There was an unusual amount of bleeding at the operation. In this, as in all antiseptic cases subsequent to Case IV., the arm was placed at the side and with the shoulder was inside of the salicylic and outside of the gauze dressings. The temperature was above normal one day only. The wound healed by first intention. The last bit of tube was removed on the twenty-first day and the spot occupied by it healed immediately.

CASE X. J. B., thirty-five years old, entered with a myxo-adenoma of the left breast of six months' standing. It was removed through a linear incision about four inches in length. The tube was taken out on the eleventh day, and a day or two later union was perfect throughout. Slight rise of temperature for three days.

CASE XI. A. M. R., forty years old, entered with a scirrhus of the right breast of a year's duration. There were glands in the axilla, the removal of which left a pocket at the most dependent portion of the wound. A large trochar was thrust through the lowest point of this pocket and a tube passed through the canula, which was then withdrawn. The wound was then stitched up through its whole length. A string was attached to the end of the tube, and passed out through the gauze for the purpose of withdrawing gradually the drain without disturbing the dressing. On the tenth day the tube was entirely withdrawn and three days later, when the dressing was removed, there was perfect union throughout. There had been one or two changes of dressing in the early stage of after-treatment.

CASE XII. S. A. E., a delicate American, forty-eight years old, entered for the removal of some diseased glands in the axilla following an operation upon the breast, performed a year before, at which time she had a phlegmonous erysipelas. The dissection of the axilla was extensive; the wound, however, did well, and had nearly become solid, when a mild, ambulating erysipelas broke out under the Lister dressing, and lasted for a week or ten days. The healing process was not materially interfered with.

There were two deaths, one from pyæmia, and one from erysipelas, although in each the growth was far advanced, and the dissection of the axilla more extensive than is usually necessary even in average bad cases. The cause of death is hardly to be sought for in the severity of the operation. In Case I. it is interesting to note that the dressing did not save a badly drained wound from pyæmia, while in Case VI., which was not a strict Lister, decomposition was prevented, and first intention ensued by the use of a carefully adjusted tube. In Case IV., as in Cases III. and XII.. it was evident that the seeds of erysipelas were brought by the patients with them to the hospital. In two of them we have an advanced stage of disease, the skin involved in one already ulcerating, and in both considerable inflammation, so that rest and soothing applications were found necessary as preparatory treatment, which, nevertheless, did not protect the already infected edges of the wound from developing the disease beneath the dressing. In Case XII. erysipelas was expected from the history of the case, and its outbreak suggested the presence in the tissues of the germs of the extensive phlegmonous erysipelas occurring after the operation a year before.

As an offset to these unfavorable results we have eight cases, consecutive in point of time, with one exception, which healed by first intention, and in them it should be said there was almost no constitutional disturbance and locally no swelling, the skin and stitches appearing to the end as in a freshly made wound. There was some difficulty in managing the tube so as not to leave a small sinus after removal. By withdrawing the tube, usually extending the whole length of the wound, very gradually the difficulty was overcome, and this was nicely accomplished in one case by a device of Mr. Mixter, house-pupil, consisting in attaching a string to the tube and passing it through the meshes of the dressing, thus controlling the tube without removing the gauze. When a gradual withdrawal of the tube was effected, beginning the second or third day, and terminating about the tenth day, the track of the tube filled up immediately behind it, and the terminal opening closed as soon as the last fragment was removed.

SHORT COMMUNICATIONS.

BULLETIN OF THE PUBLIC HEALTH.

ISSUED BY THE SURGEON-GENERAL U. S. MARINE HOSPITAL SERVICE, UNDER THE NATIONAL QUARANTINE ACT OF 1878, FOR THE WEEK ENDED DECEMBER 14TH. No. XXIII.

OFFICE SURGEON-GENERAL M. H. S., WASHINGTON, *December* 18, 1878.

YELLOW FEVER. — During the week the only deaths reported were two at Memphis on the 10th and 12th inst.

BURLINGTON, VT. — Month ended November 25th. Deaths from all causes 22, an annual ratio of 16.5 to each 1000 of the population. Four deaths from diphtheria.

MASSACHUSETTS. — For the week ended December 7th, in sixteen cities with an estimated aggregate population of 742,000, there were 274 deaths, an average annual rate of 19.25. The local death-rate ranged from 0 at Pittsfield (population 12,600) and 10 to 12 at Chelsea, Newburyport, Gloucester, Cambridge, and Worcester to 21.12 at Boston, 26.60 at Salem, and 42 at Fall River. In the latter city the death-rate from the principal "zymotic" diseases was nearly 25 per 1000 of the population. The average death-rate from these diseases in the sixteen cities was four.

BOSTON, MASS. — Week ended December 14th. Total deaths 137. Annual ratio 22. Seventeen cases of scarlet fever, three deaths. Fifteen cases of diphtheria, 10 deaths.

PROVIDENCE, R. I. — Month of November. Total deaths 165. Annual rate 19.80. Deaths from phthisis 29, from pneumonia 12, from diphtheria 32, from scarlet fever two.

NEW YORK CITY. — Week ended December 14th. Deaths from all causes 495. Annual rate 23.6. Phthisis caused 94 deaths, pneumonia 51, bronchitis 30, scarlet fever 36, diphtheria 21, enteric fever five.

HUDSON COUNTY, N. Y., including Jersey City and Hoboken. In the month of November, in an estimated population of 180,000, there were 294 deaths, 42 being from diphtheria and croup, 12 from scarlet fever, three from enteric and five from "malarial" fever, 39 from phthisis, 28 from pneumonia. Annual rate 20.

BROOKLYN. — Week ended December 14th. Total deaths 184. Rate 17.4. Seventy-one cases of scarlet fever, seven deaths, 42 cases of diphtheria, seven deaths. Twenty deaths from phthisis.

PHILADELPHIA. — Two weeks ended December 14th. Total deaths 601. Annual rate 17.6. Thirty-two deaths from diphtheria (minors), 24 from scarlet fever.

BALTIMORE. — Week ended December 14th. Total deaths 95. Annual ratio 14. From scarlet fever four deaths. From enteric fever three, from diphtheria three, from phthisis 17.

CLEVELAND. — Week ended December 14th. Total deaths 47. Annual rate 15. Four cases of scarlet fever, two deaths; ten cases of diphtheria, eight deaths.

CINCINNATI. — In the four weeks ended December 14th the deaths from all causes were respectively 96, 96, 111, and 83. From scarlet fever 16, 18, 26, and 17. Phthisis 12, 17, seven, and nine. Pneumonia and bronchitis five, nine, nine, and four. Annual rate 18, 18, 20, and 15. During 1878 one death from small-pox.

MILWAUKEE. — Week ended December 7th, 28 deaths. Ratio, 12. Sixteen cases of diphtheria, two deaths.

ST. PAUL. — In the three months ended November 30th there were 120 deaths. Annual rate 13. In June, July, and August deaths numbered 137, an annual ratio of 15.

ST. LOUIS. — For the two weeks ended December 1st there were 221 deaths, an annual ratio of 11.5 in the estimated population. Scarlet fever caused two deaths, diphtheria 16, enteric fever six, phthisis 28, pneumonia 21.

NORFOLK. — In November 43 deaths, nine being from phthisis, five from pneumonia, 11 from "zymotic" disease. Annual death-rate 22.4

CHARLESTON. — Week ended December 7th. Twenty-six deaths. Annual rate 26.

SAVANNAH. — Week ended December 13th. Twenty-five deaths. Annual rate 46.4.

NEW ORLEANS. — For the three weeks preceding December 8th the total deaths numbered respectively 104, 100, and 88. From yellow fever 14, 4, 2, "malarial" fever 10, 7, 5, from phthisis 7, 14, 9, pneumonia 7, 9, 6.

HAVANA. — Week ended December 16th. Nine deaths from yellow fever, five from small-pox.

RIO DE JANEIRO. — Week ended November 9th. Two hundred and forty-three deaths, small-pox causing 65. Of 1321 deaths in October, 453 resulted from this disease.

GREAT BRITAIN. — Week ended November 23d. In 23 cities having an estimated population of 8,374,000 there were 3976 deaths, an average rate of 25 per 1000, ranging from 14 at Portsmouth and 17 at Brighton to 24 at Birmingham, 26 at Manchester, and 29 at Liverpool. The percentage of deaths from the principal preventable diseases varied from less than one at Portsmouth, Brighton, Plymouth, and Bristol, to five at Dublin, and 6.4 at Liverpool.

LONDON. — Week ended November 23d. The total deaths numbered 1546, an annual ratio of 22.6 against 20.2, 23.2, 24.3 in the three preceding weeks. Bronchitis caused 207 deaths, pneumonia 107, scarlet fever 54, diphtheria 11, small-pox 7. There were 149 cases of the latter disease in the hospitals on November 23d. In inner London the death-rate was 22.6; in the outer suburban ring 17.9.

DUBLIN. — Week ended November 23d. Deaths 213. Annual rate 35. Nineteen deaths from phthisis, 46 from bronchitis, 6 from scarlet fever, 11 from small-pox; 69 cases of the latter disease in the hospitals.

At CORK the death-rate for the week was 38; at Derry 17; at Belfast 32. In the latter city 13 per cent. of all the deaths in October were caused by scarlet fever.

In GALWAY the death-rate for the week was 42. Small-pox is still prevalent, and caused 32 per cent. of all the deaths in the preceding month.

GERMAN EMPIRE. — In 148 cities and towns of more than 15,000 inhabitants and an aggregate population of 7,451,536, during the week ended November 9th there were 3336 deaths, an annual ratio of 23.3 against 22.7 in the preceding week. Phthisis caused 424 deaths, pneumonia 260, diphtheria 180, scarlet fever 117 deaths; 32.5 per cent. of all the deaths were among children less than one year of age. But one death in the empire from small-pox (at Breslau).

BERLIN. — In week ended November 9th 465 deaths, an annual rate of 24.5. Phthisis caused 56 deaths, diphtheria 36, scarlet fever 23.

For the week ended November 9th the death-rate at Breslau was 24, at Munich 33.7, at Dresden 21.8, at Leipzic 17.4, at Hamburgh 22.8, at Cologne 26.6, at Frankfort 15.7, at Strasbourg 26.3.

VIENNA. — Week ended November 9th. Deaths from all causes 378. Annual ratio 27; 88 deaths from phthisis, 42 from pneumonia, 29 from diphtheria, 5 from scarlet fever, 6 from small-pox.

PARIS. — Week ended November 9th 870 deaths, 163 being from phthisis, 100 from pneumonia, 25 from diphtheria, 20 from enteric fever. Annual rate 22.8.

Africa, Tangier. — Cholera is disappearing from the interior cities of Morocco where it has prevailed for some months with great severity. At Casablança in the week ended October 12th there were 53 deaths from cholera, and 27 from small-pox. In the week ended October 19th cholera caused 5 deaths, and small-pox 17. (See Bulletin No. 22.) The latest weekly returns from the following cities show the average annual death-rate: at Madras 51.4, Odessa 46.5, Buda-Pesth 41, Calcutta 38, Alexandria 45, Cracow 38, St. Petersburg 32, Venice 31, Warsaw 30, Lisbon 29, Naples 22, Rome 21, Copenhagen 17, Stockholm 17.

John M. Woodworth,
Surgeon-General U. S. Marine Hospital Service.

Note. As soon after January 1, 1879, as practicable the "Bulletin" will be printed in tabular form, and extended as far as useful and practical. Health officers and registrars of vital statistics, who have been requested to furnish information, will aid in imparting to it the practical value it is desired it should possess by forwarding their mortality returns as promptly as possible.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Dec. 14, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68–77.
New York.	1,093,171	495	23.54	23.42	28.71
Philadelphia.	876,118	306	18.16	18.80	21.54
Brooklyn.	549,438	183	17.33	21.51	25.50
Chicago.	460,000	155	17.77	17.83	22.39
Boston.	375,476	137	18.97	20.10	24.34
Providence.	100,000	34	17.68	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	23	21.78	20.06	22.30
Cambridge.	53,547	20	19.42	18.69	20.83
Fall River.	53,207	25	24.44	21.35	24.96
Lynn.	35,528	13	19.03	20.42	19.67
Springfield.	33,981	5	7.66	16.02	19.77
Salem.	27,140	5	9.58	20.38	21.15

The Gynæcological Society of Boston. — The ninety-eighth regular meeting of the society will be held at Medical Library Rooms, 19 Boylston Place, on the first Thursday of January, at two o'clock, p. m. Election of officers and other business pertaining to the annual meeting. Discussion of a phase of intra-uterine inflammation. Paper by R. P. Loring, M. D. At three o'clock doors open to the profession, who are cordially invited to be present.

Henry M. Field, M. D., *Secretary.*

Suffolk District Medical Society. — A special meeting will be held in the hall of the Medical Library Association, 19 Boylston Place, December 28th, at seven and a half o'clock. The question of the advisability of removing from the rooms in Temple Place, and the amount which should be paid for the use of the hall in Boylston Place, is to be submitted to the consideration of the society.

The following papers will be read: —

Dr. James J. Putnam. The supposed Cure of Cutaneous Anæsthesia by the application of Metals to the Skin.

Dr. Francis Minot. Cases of Disease of the Spinal Cord.

Dr. B. Joy Jeffries. Color-Blindness.

Supper at nine o'clock.

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